

FAST, FASTER & FASTEST

Wireless Cutting Edge (P.36)



YOU CAN DO THAT ON YOUR MOBILE?

9 Key Smartphone
Sites & Services (P.52)



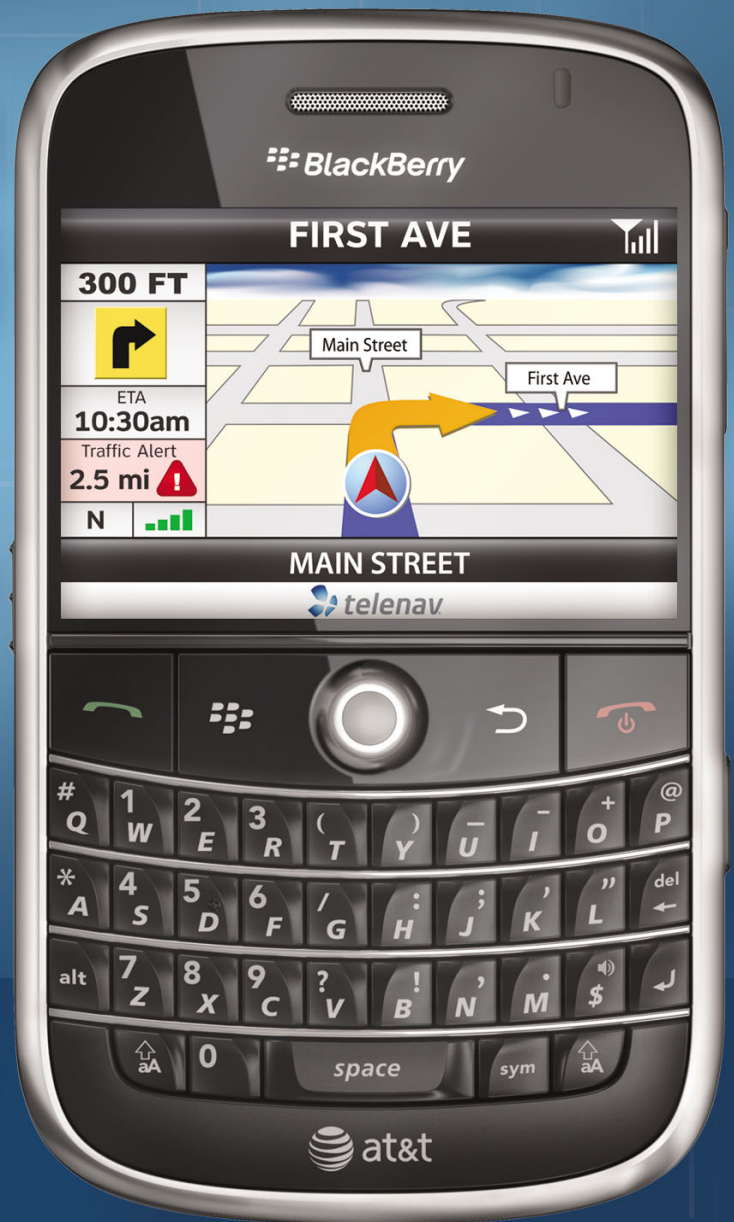
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Mobile Is
The Future (P.76)

February 2009 Vol. 7 Iss. 2

SMARTPHONES THAT TRAVEL

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SMARTPHONES



By now, most mobile professionals know what makes a smartphone smart: connectivity and productivity features in a package small enough to carry in a pocket or purse. However, as Apple's iPhone and other consumer-focused smartphones gain popularity, manufacturers are shoving additional features into many smartphones, blurring the distinction between business and consumer models. If you're in the market for a new business smartphone, this month's featured articles will help you navigate today's landscape of options.

32 **Age Of The Touchscreen**
More People Are Getting
Their Fingers On Touchscreen Phones

36 **Wireless On The Verge**
Smartphones Connect Us
Like Never Before

40 **The Traveling Smartphone**
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For International Trips

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48 MOBILE TIPS

Tech To Go

13 Quick Guide To Smartphones

14 AT&T HTC Fuze

15 Sprint Rumor by LG

16 T-Mobile G1

17 Sony Ericsson Xperia X1

18 Palm Treo Pro

19 Quick Guide To Notebooks & Portables

20 Lenovo ThinkPad X200 Tablet

21 Apple MacBook Air

22 Quick Guide To Mobile Gear

23 Projex Mobile

24 iRex Technologies DR 1000S

25 Boingo Wireless

26 Vuzix iWear AV920 Video Eyewear

27 Denon AHNC732 Noise Canceling Headphones

28 RichardSolo Backup Battery For iPhone

29 TeleNav GPS Navigator

30 Barracuda Networks Barracuda Backup Service

Logbook

7 We've Got Your Numbers

8 Noteworthy

10 Control Your eHealth

Access Medical Records
With Google Health

12 Tech To Watch

Near Field Communication

Unwired

44 New For Your Mobile Phone

The Latest Updates & Services

46 BlackBerry Tips

Boost Your BlackBerry's Battery

48 Windows Mobile Tips

Turn Your Smartphone
Into A Multimedia Powerhouse

50 Nokia Tips

A Handful Of Handheld How-Tos

52 Browsing & Streaming

More Ways To Enjoy
Your Smartphone

54 Pick An iPod, Any iPod

iPods & iTunes For The Uninitiated

56 New & Updated Mobile Software

Get More Done With Your
Mobile Device

58 Digital Downtime

Notes On The Latest
In Digital Music & Video

Travel

60 Construction Zone

The Latest Hotel & Airport News

62 Raleigh-Durham International Airport

Instant Guide To RDU

Business Travel 911

64 Business Travel Emergency?

66 Solve Wireless

Internet Connection Problems

68 Connect To An Encrypted

Wireless Network

70 Travel & Your Health

72 Prevent Identity Theft

74 The Traveler's 911 Directory

Departures

76 The Business End

AT&T Is On A Wireless Mission

78 Happy Trails

Intriguing Mobile Gear,
New & Around The Bend

We've Got Your Numbers

1 Experts believe that **mobile Web connections** will outnumber those made via desktop devices by the year 2020. According to a new survey of "Internet leaders, activists, and analysts," 81% agreed that mobile phones will become the primary tool people worldwide will use to connect to the Internet. The report cited technological advances in mobile computing that are making small Internet-capable devices increasingly powerful; combine that power with a relatively low price, and you have a winner.

Pew Internet & American Life Project



21

Note to females: If you're on a first date, turn off those cell phones. According to a recent survey of 541 single males, 21% say that **paying more attention to your cell phone than your date** is the biggest turn-off on a first date.

Cellular-news



For the first time ever, U.S. **notebook PC shipments** dominated desktop PC shipments, with notebook shipments holding 55.2% of the market share in Q3 2008. According to recent statistics, a record number of more than 9.5 million notebooks shipped during this period.

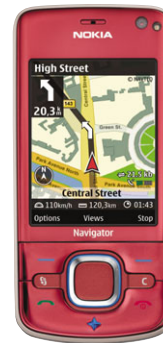
IDC

With a majority of the top PC manufacturers entering the **mininotebook market**, netbook shipments grew at a rate of more than 160% in Q3 2008. With the demand for mobility rapidly increasing, it's predicted that mininotebooks will hold 16% of the total notebook PC market share by 2011.

DisplaySearch

160

70 Million



It appears that more consumers are letting their cell phones be their guides. The number of mobile subscribers downloading **navigation routes via mobile phones** is expected to increase from 16 million users in 2008 to 70 million users in 2014.

Berg Insight

38 Billion

As the prices for monthly mobile Web access continue to fall, and the adoption of browser-enabled handsets continues to rise, it's predicted that the demand for popular Web content such as email, news, and social networking sites will increase, as well. In fact, a recent report from Strategy Analytics predicts that **mobile Web browsing** will generate \$38 billion in 2013.

Strategy Analytics

Mobile messaging, which includes text messaging, picture messaging, mobile email, and mobile instant messaging, is expected to generate revenues of \$224 billion by 2013. Of those figures, SMS accounts for the majority of mobile messaging, bringing in \$89 billion for 2008. Just how many text messages is that? It works out to almost 3.5 trillion.

Portio Research

224 Billion

Noteworthy

AIRPORTS That Make You Feel Good

Ever felt a pep in your step traveling through Phoenix Sky Harbor International? No wonder. *Health* magazine recently named it America's healthiest airport based on input from medical and travel experts, governmental reports, ratings, trade groups, and airports. Taking food choices, bathroom cleanliness, environmental friendliness, lowering passenger stress, and other factors into consideration, following Sky Harbor in order are Baltimore/Washington International, Chicago O'Hare International, Detroit Metropolitan, Denver International, Ronald Reagan Washington National, Dallas/Fort Worth International, Boston Logan International, Portland International, and Philadelphia International.

iPhone VS Storm



A new report from ChangeWave Research shows that satisfaction rates for Apple's iPhone were much higher than those for Research In Motion's BlackBerry Storm 9530 among initial buyers, with 77% reporting they were "very satisfied" with the iPhone compared to 33% reporting the same for the Storm. The key, however, is in the phrase "initial buyers," as post-release updates for the Storm have served to improve the smartphone significantly. The report also indicates that RIM leads in smartphone market share, with BlackBerrys accounting for 41% compared to the iPhone's 23%.

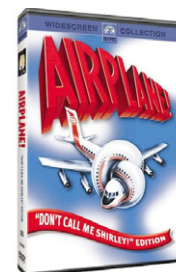
NETBOOKS Get Over On The iPhone

Are you a netbook owner? You're not alone. Millions snatched up ultraportable netbooks (typically priced at less than \$500) in 2008. Data from analyst Gartner and market researcher DisplaySearch for Q3 2008 shows netbook sales (5.6 million) outdistanced Apple iPhone (4.7 million) purchases—this despite Apple CEO Steve Jobs' now notorious statement in reference to Apple creating its own netbook, "There's, as best as we can tell, not a lot of [netbooks] getting sold."



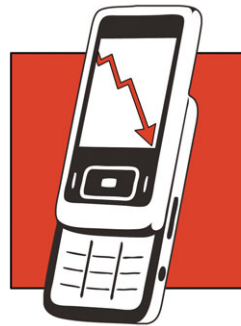
AND DON'T Call Me Shirley

Ever contemplated the all-time best movies about airplanes and airports? Aviation.com columnist David Armstrong has. His recent subjective Top 10 list includes "Air Force One," "Snakes On A Plane" ("so bad it's good"), "Tokyo Joe" (Humphrey Bogart; say no more), "Airport" ("blissfully exaggerated melodrama"), and "United 93" ("incredibly sad, incredibly hard to watch"). Topping the list? "Airplane!", of course. As Armstrong writes, "This may be the most flat-out enjoyable movie about civil aviation ever."



MOBILE PHONE MARKET To Sink Quickly In 2009

The 2009 mobile phone market will shrink at the quickest rate ever, according to 36 analysts Reuters polled recently. Global mobile phone volumes are estimated to decline 6.6% in 2009 after falling 5.7% in Q4 2008, usually the strongest quarter for the \$190 billion industry, due to the holidays. The European market is to particularly suffer, while LG and Samsung are the most likely to stockpile inventories. Nokia and Samsung, meanwhile, are expected to actually grow market shares (39.6% and 17.3%, respectively), while Motorola is expected to lose the most market share.



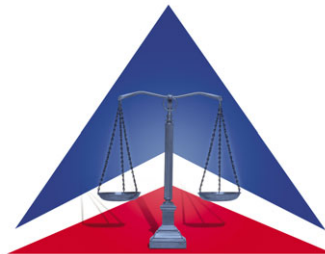
TERROR ATTACKS, Government Protests To Decrease Travel Volumes

The National Business Travel Association surveyed 191 corporate travel buyers after the November 2008 terrorist attack at a Mumbai, India, hotel and the closure of the Suvarnabhumi Airport in Bangkok, Thailand, due to government protests. Findings indicate 42% expect company travel volumes to decrease to Mumbai and 34% for Thailand. Positively, 90% (Mumbai) and 85% (Bangkok) stated they were able to locate employees directly affected by the events using traveler tracking systems.



GOOD NEWS For Delta Air Lines' Travelers

Although Delta Air Lines announced in December 2008 it will cut 2009 capacity by 6 to 8%, it also plans to soon let travelers qualify for elite frequent-flyer status through acquired miles and flight segments logged, extending a perk offered by Northwest Airlines, which Delta merged with in 2008. Southwest Airlines, meanwhile, recently announced it may add flights to a still-unnamed third major airline, following similar recent moves at Minneapolis-St. Paul International Airport and LaGuardia Airport.



U.S. AIRLINES Prove To Be Punctual

Recent data from the Bureau of Transportation Statistics concerning 19 major U.S. airlines indicates carriers hit an 86% on-time arrival rate for October 2008, topping October 2007's 78.2% and September 2008's 84.9% rates (although airlines are booking fewer flights these days). Carriers also canceled just 0.6% of scheduled domestic flights vs. 1.2% in October 2007 and 1.8% in September 2008 and handled 627 service-related complaints vs. 1,099 in October 2007 and 684 in September 2008.



CUTBACKS To Hit Corporate Meetings Industry

Company cutbacks due to the economy will hit the \$175-billion corporate meetings industry hard in 2009, Reuters reports. Though fewer long-distance meetings will save companies millions in airfare, hotel fees, conference hall rentals, and so on, the meetings industry will suffer. "I've been in this business 40 years and I've never seen anything like this before," says Kevin Maguire, National Business Travel Association president. "I call it the DDE for 'devastating domino effect,'" he said, meaning restaurants, cabbies, and other local businesses will feel the pinch, too.

MAJORITY OF BUSINESS Travelers Won't Reduce 2009 Travel

Of the 612 business travelers polled for *The Orbitz For Business/Business Traveler* magazine Trend Report, 55% stated they plan to travel as much or more in 2009 vs. 2008. Of those surveyed, 71% stated they traveled as much or more in 2008 vs. 2007, though 79% felt pressure to curb travel-related expenses. Interestingly, 50% reported trying video conferencing in 2008, but 85% indicate they feel video conferencing would not be as productive as in-person meetings, with 76% labeling face-to-face meetings as important and 16% as critical.



Control Your eHealth

Access Medical Records With Google Health

Humans will always have health issues. Some are minor, but other ailments require regular checkups, physical examinations, or prescription medications. Keeping track of your medical history and doctor visits can monopolize hours of your time each year as you organize documents, update personal records, and monitor test results.

All of these tasks can seem overwhelming if you don't have a method for managing your health information. Here's where Google steps in and helps you take control of your medical data. Google Health is the latest addition to Google's ever-expanding list of Web products—applications and services that are designed help you live your Internet life more efficiently. Such products include Google Earth for global exploration down to a fine point, Google Finance for investment and market tracking, and Google Video, in beta stage at press time.

Google has outlined specific goals to aid users in their efforts to take more control over their well-being. According to an Official Google Blog post by Marissa Mayer, vice president of search and user products, Google Health intends to “solve an urgent need that dovetails with [Google Health's] overall mission of organizing patient information and making it accessible and useful.” Google hopes that its “users will be empowered to collect, store, and manage their own medical records online.”

More specifically, Google Health exists to keep your medical doctors privy to any changes in your health. The obvious advantage to this service is that you won't have to fill out new medical information forms each time you schedule an appointment with a new or different doctor. Keeping your results up-to-date and readily available will prevent you from having to endure routine tests for doctor-recommended purposes.

You might be curious about the privacy and security concerns related to storing medical records online. For example, what types of privacy restrictions has Google implemented to protect users' health information? And how much control do Google Health users have over facilitating when and how they transfer their medical records? We'll address these questions as we give Google Health a thorough physical—er, digital—checkup.

Diagnosing Your Health Profile

You could call Google Health by a few different terms: a personal health tool, an organizational application, or a platform for pioneering the eHealth revolution. Before we expound on all of these descriptions, let's start by walking you through the sign-up process and breaking down Google Health's many features.

If you don't have a Google account (something you'd have if you had signed up for Gmail, for example), you'll need to sign up and acquire a username and password. Then you can log in to Google Health at www.google.com/health and immediately modify your personal profile. To get started, click Add To This Profile. Under this heading, six primary subcategories are listed: Conditions, Medications, Allergies, Procedures, Test Results, and Immunizations. As you select each of these tabs, Google Health provides lists of hundreds of descriptions regarding your health conditions. By customizing your profile details, you are potentially updating your records for the next medical professional you visit.

As you add conditions to your profile, you can research the symptoms, treatment, causes, and prognoses of a condition by clicking Reference next to a particular condition. The Medications category lets you add a record to each medication so you're able to monitor the number, frequency, and strength of dosages.

The Drug Interactions feature is ideal for anyone with prescriptions for multiple medications or who must add a new medication to an already full pillbox. For instance, if you're taking over-the-counter Safe Tussin 30 to relieve your bronchitis and then prescribed Codeine Phosphate Oral by your doctor, Drug Interactions notifies you that both of

these medications contain ingredients in the same medicinal family.

Google Health informs you, in general terms, that people should not ingest more than one medication within the same family. (The disclaimer recommends, however, that you consult your healthcare provider before you start, stop, or change any medical treatments.) Google Health will inform you of conflicts that either require immediate attention or a discussion with your doctor.

Creating additional profiles for any family member is almost too simple. By clicking Create A New Profile, your family member can edit his medical information. In order to take advantage of Google Health as a facilitation tool, you'll need to import your medical records. Google has compiled a list of personal health services, such as medical providers, pharmaceutical retailers, and other resources, that are working with Google Health to enable you to gain more control over your health records.

Information Protection

Sensitive data should only be viewed by those with expressed authorization; another party interested in viewing this confidential information must be given explicit consent. Details about how Google handles user information are outlined succinctly on the Google Health Privacy Policy page at www.google.com/intl/en-US/health/privacy.html.

By default, you are the only one who controls your medical information. Any time you decide to share your information with a health provider or third-party user, you can keep track of who has access to your data and rescind any user's access rights. (However, they may have created a copy that cannot be retracted.) The data accessed and stored by another Web site resides under its individual privacy policy, where, in some cases, various health professionals might analyze your health information to assess your condition. Presently, there are a limited number of health services available, but this category is likely to expand if Google users see the benefits of automatic medical updates.

Jerry Lin, product manager for Google Health, explained Google's policies regarding the authorization and transfer of personal health information. "When Google Health started, it was rooted in the philosophy of having everything predicated on user choice.

The medication record window allows you to modify dosage reminders and history.

Information doesn't get sent out to a user's Google Health profile unless the Google user authorizes that," Lin said. "Likewise, information doesn't get sent to a service unless the user authorizes that. [In] both directions, it's under user control."

"In addition to everything being under user control. . . . Google uses state-of-the-art technology to make sure that all the transmissions are secure," said Lin. "For example, when the user logs in to his or her Google Health account, that's over HTTPS/SSL, so that information is encrypted. Information sent from pharmacies or other providers to Google Health is also encrypted."

How Will eHealth Evolve?

There is a great deal of potential in the Google Health application—in a matter of years, millions of U.S. patients could conceivably have Google Health accounts, rendering previously unavailable or scattered data as readily available.

This form of eHealth could be useful on portable devices such as netbooks, UMPCs, and smartphones. Lin alluded to this idea: "You can imagine people developing other points of connection—for example, for your phone—so you can access the Internet while waiting in the doctor's office. I think that over time institutions will become more and more willing to share the patient's data with the patient," he said. "We hope that they will look to Google Health as a useful service to help them keep track of their information."

If Google Health is here to stay, then it may significantly transform the relationship between patient and provider as the information age progresses.

by Joanna Safford



Use Google Health to find a doctor based on specialization or any other search criteria.



Tech To Watch

Near Field Communication

The current slew of wireless technologies crammed into our smartphones, including Wi-Fi, Bluetooth, and a handful of cellular-based protocols, are all more than adept at letting us access the Internet; keep connected to family, friends, and colleagues; and pass data between our phones and other devices. But the air around your pocket wonder is about to go from cozy to downright crowded thanks to a new wireless signal that may be emanating from your smartphone in the future, called NFC (Near Field Communication).

NFC is a short-range wireless technology, similar to RFID (Radio Frequency Identification). NFC operates at 13.56MHz and supports data transmission rates of up to 424Kbps for sending small chunks of data over short ranges (approximately 4 centimeters). NFC developers Sony and Philips created the NFC Forum and designed the protocol to fill the short range void left by current wireless technologies. Bluetooth and Wi-Fi, which support ranges of 10 meters and more, require some form of manual user input to block unauthorized users from listening in on the data exchange. To establish an NFC connection, however, a user simply waves the device near or touches it to an NFC terminal. It's

this extremely range-limited interface that makes NFC so much more secure than other technologies. This simple gesture is all that's necessary to process contactless purchases, whereby your NFC-capable smartphone acts as a wireless debit or credit card. Passive NFC tags can also pass data to

Five Reasons To Watch NFC

- Relies on short-range wireless for security
- Eases payment for snacks, beverages, venue tickets, and transportation
- Compatible with RFID, Bluetooth, and Wi-Fi
- No manual input necessary for pairing and establishing a connection
- Data on capable devices can't be copied and can be canceled if stolen

NFC-capable devices within close proximity. For instance, if you tap your NFC-capable phone to a movie poster with an NFC tag, show times instantly appear on your phone. For more bandwidth-heavy applications, such as calendar and email sync or small file transfers, NFC establishes

the connection, and then Bluetooth or Wi-Fi protocols can complete the data transmission duties. Under Bluetooth, pairing a wireless headset requires manual input, but with NFC, the connection is instant when the devices come in contact.

Smartphones are a natural fit for this technology, and pilot programs in the U.S. include Mobile Transit Trial, which lets participants use NFC phones at San Francisco's Bay Area Rapid Transit, Jack In The Box, and Western Union Speedpay terminals. Cingular Wireless (now AT&T) in conjunction with Citigroup, the New York subway, MasterCard Worldwide, and Nokia wrapped up an NFC trial in April 2007. Dallas-area 7-Elevens and MasterCard also let customers with capable Nokias buy Slurpees (and more) with their phones.

As we went to press, NFC was still very much in the initial trial phase in the U.S., but elsewhere, in Europe especially, the technology is popular with users for a variety of contactless payment applications. In a recent report from Juniper Research, the firm estimates that mobile money transfers and contactless NFC transactions will account for 50% of the mobile payment market by 2013.

by Andrew Leibman

Quick Guide To Smartphones

by Jennifer Johnson

Time is precious. We are always looking to maximize every minute.

Given the many ways a smartphone can help you make the most of the time you have, it's no wonder this device has become a staple for many business professionals. Even so, shopping for a smartphone can be confusing. We're here to help with some things to keep in mind if you're looking to purchase a smartphone.

Design Factors

LIKE regular cell phones, smartphones come in many shapes and sizes. There are candy bar-style smartphones, sliders, and clamshells. No single form factor is right for everyone. Some smartphones have a hardware keyboard while others use an on-screen keyboard. Touchscreens are another optional feature. Consider the size of the smartphone along with its design. You'll want a smartphone that fits comfortably in your hand and is easy to use. For some people, this may be a sliding smartphone with a full QWERTY keyboard and touchscreen. Other users may prefer something a bit smaller, such as a thin candy bar-style phone with very few hardware buttons.



Wireless & GPS

SMARTPHONES keep us connected while we're away from the office. Smartphones with integrated Wi-Fi provide an additional means of connectivity beyond traditional cellular airwaves. With Wi-Fi, you can connect to the Internet at high speeds when a hotspot is available.

Another option for connectivity is Bluetooth, a standard for short-range wireless communications. Bluetooth technology is often used to connect two devices, such as a smartphone and a wireless headset. You can also use Bluetooth to connect your smartphone to your laptop, thereby allowing the phone to serve as a high-speed modem for the notebook using dial-up networking.

If your smartphone has built-in GPS and navigational software, your phone can serve double-duty as your personal co-pilot, ensuring you take an efficient route to your destination.



On The Inside

WHEN shopping for a smartphone, you'll come across a variety of acronyms that describe the types of networks on which a phone operates. CDMA (Code-Division Multiple Access) and GSM (Global System for Mobile Communications) are the most common cellular standards. AT&T and T-Mobile operate on GSM, while Verizon Wireless and Sprint use CDMA.

GSM is most common worldwide, though CDMA providers in the U.S. do sell phones that work overseas. If you're planning to travel overseas and want to use your smartphone during your travels, be sure to buy a phone that supports the frequency bands used overseas. You'll also need an appropriate calling plan from your carrier.



What's An Unlocked Phone?

IN THE U.S., we buy phones at a discounted price because the cellular provider (AT&T, Sprint, T-Mobile, Verizon Wireless, and so on) subsidizes the price of the phone. In return for the discount, carriers require you to sign a contract agreeing to have service with the carrier for a specified length of time (typically one or two years). To protect their own interests, many carriers lock the phones so customers can only use the phone on that carrier's network. Should you prefer not to sign a contract and wish to pay full retail price for the phone, you can get an unlocked model to use with any compatible carrier.



OPERATING SYSTEMS

In addition to the physical form factor, consider the OS on which the phone runs.

Symbian OS. You'll find a Symbian OS-based platform (such as S60) running on the majority of the world's smartphones, even though the OS doesn't hold the majority of the U.S. market.

Windows Mobile. For users who are accustomed to using Windows on their computers, the Windows Mobile OS is familiar and easy to learn.

Palm OS. If you had a Palm PDA in the past and want something similar in a smartphone, or if you want an interface that is relatively simple to navigate, the Palm OS is worth considering.

BlackBerry. BlackBerry handhelds are known for their solid email capabilities, and newer models offer additional features comparable to those found on other smartphones.

OS X iPhone. Apple developed its own OS for use on the iPhone, complete with a full Safari Web browser.

TAKEAWAY

An easy 3D interface sets this Windows Mobile® smartphone apart.



HTC Fuze

If you're looking for a smartphone that's both stylish and easy to use, the HTC-made Fuze from AT&T has it covered. The Fuze doesn't stop at the surface, though; look further and you'll find that the Fuze is a fully capable Windows Mobile® 6.1 Professional smartphone. A GSM/GPRS/EDGE world phone with UMTS/HSDPA 3G capabilities, the Fuze includes Microsoft® Office Mobile (with mobile versions of Excel®, OneNote®, PowerPoint®, and Word®), Opera (for full HTML Web browsing), Bluetooth® 2.0 +EDR, and XM Satellite Radio. In short, the Fuze is ready for both productivity and play—exactly what you need for travel.

As for ease of use, the Fuze includes the TouchFLO™ 3D interface, which features a Home screen and immediate finger-touch access to email, contacts, calendar, phone, Internet, and more. Tap the icon you want and just follow along to accomplish any smartphone task. A slide-out keyboard lets you type when necessary. The Fuze also features Wi-Fi (802.11b/g), GPS support, a 3.2MP camera with video, and much more.

Key Facts

- Built-in GPS works with location-based applications, including AT&T Navigator powered by TeleNav, TeleNav Track™, and Xora GPS TimeTrack™
- Wi-Fi (802.11 b/g) lets you connect with home or workplace networks, or access the Internet via any of more than 17,000 AT&T Wi-Fi Hot Spots (including thousands of participating Starbucks locations) nationwide
- AT&T Video Share™ is the first service in the U.S. that allows users to share live video over wireless devices while participating in a voice call

Tech Specs

- Quad-band GSM/GPRS/EDGE (850/900/1800/1900MHz); UMTS/HSDPA (850/1900/2100MHz)
- Up to 7.4 hours talk time
- Up to 19.3 days standby time
- 512MB internal ROM; 288MB RAM; expandable to 32GB with microSD™ memory card
- Bluetooth® 2.0 +EDR; Wi-Fi (802.11b/g)
- 5.82 ounces with battery
- 4.02 x 2.01 x 0.71 inches (HxWxD)



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TAKEAWAY

If the message is what matters most to you, the Rumor is here to deliver it.



Rumor by LG

The Rumor™ by LG, now available through Sprint Nextel, is a CDMA phone targeted to deliver the services you need most: email, instant messaging, and hands-free connectivity. If communication services while traveling are what drive your choice in a mobile phone, you'll find that the Rumor's features are specially suited to keeping you productive. Sprint Nextel cellular service, two-way text messaging, multimedia messaging, and AIM® (AOL Instant Messenger), along with a slide-out QWERTY keyboard, make it easy to stay in touch. Bluetooth® 2.0 lets you connect the Rumor to a hands-free kit or to other devices. And built-in A-GPS combined with support for LBS (location-based services) helps you navigate with ease.

There's also a USB port for a computer connection, say, to transfer photos taken with the Rumor's camera, or to transfer music for the Rumor's audio player. The Rumor also features a microSD™ card slot for extra storage, a calendar, a calculator with tip and unit conversion functions, and a voice memo utility.

Key Facts

- Productivity tools include a calendar, clock (and world clock), notepad, calculator (including tip calculation and unit conversion features), wireless backup for contacts, and a voice memo utility
- Bluetooth® 2.0 handles up to 20 pairings and works with hands-free kits and for dial-up networking, file transfers, basic printing, and more
- Multimedia features include MMS (multimedia messaging), a 1.3MP camera with video capture capabilities, and a media player with stereo sound output

Tech Specs

- 1.9GHz CDMA PCS, 800MHz CDMA (digital dual-band)
- Up to 4.5 hours talk time
- 16MB internal memory; storage for up to 500 contacts; microSD™ slot for up to 4GB extra storage
- Bluetooth® 2.0
- A-GPS
- 4.13 ounces
- 4.3 x 2 x 0.7 inches (HxWxD)



Free after discounts with two-year contract | Sprint Nextel | www.sprint.com

TAKEAWAY

Google, HTC, and T-Mobile are the dream team behind the G1 smartphone.



T-Mobile G1

Dreaming of a device that offers the power of touch and all the smart features you need for business and entertainment? Wake up to the G1, built by HTC (and aptly code-named the Dream) to run Google's® Android™ mobile platform on T-Mobile's high-speed 3G network. Use the G1's touchscreen interface or slide-out QWERTY keyboard to bring up any Web site (even if a streaming YouTube video is what you're after); use a Google application (including Google Maps™ for navigating and checking out satellite, traffic, and street views); play music or a video; or simply communicate via voice, email, or text message.

The G1 uses the powerful Qualcomm® MSM7201A processor and offers 256MB device memory and 192MB available user memory, storage expansion with a microSD™ card, Bluetooth® 2.0+EDR, a 3.2MP camera, and Wi-Fi. In fact, the G1 switches automatically between 802.11b/g Wi-Fi networks and T-Mobile's 3G network, based on availability, to give you the best speed at all times.

Key Facts

- Intuitive user interface and hinged touchscreen that slides open to reveal a full QWERTY keyboard
- Google Maps provides map information, satellite imagery, local business info, and driving directions, as well as MyLocation to let users know where they are
- Google Maps Street View syncs with the built-in compass on the phone—an industry first—to let users view locations and navigate 360 degrees by simply moving the phone with their hand
- Convenient trackball for one-handed navigation

Tech Specs

- Quad-band GSM (800/900/1800/1900MHz), WCDMA (1700/2100MHz)
- Up to five hours talk time
- Up to 130 hours standby
- 1GB microSD™ memory card (upgradable to 16GB)
- 3.2MP camera with photo-sharing capabilities
- Built-in GPS
- Bluetooth®
- Voice recognition, voice dialing, and speakerphone
- 5.6 ounces
- 4.6 x 2.16 x 0.62 inches (HxWxD)

T-Mobile

\$179.99 with two-year contract | T-Mobile | www.t-mobile.com

TAKEAWAY

This smartphone does things your way and works all over the world.



Xperia X1

Pick a few features you love about your notebook—full Web access, fast connection speed, RSS news feeds, video chat, keyboard, bright screen at a tilt—and imagine them in a smartphone. Those are among the features you'll find in Sony Ericsson's new Xperia™ X1. And the Xperia™ X1's intuitive interface works in whatever mode you're most comfortable with: via a full QWERTY keyboard (which slides out in an arc design), by touch, using a four-way key (similar to many mobile phones), or using an optical joystick.

With support for multiple wireless modes, the Xperia™ X1 is also flexible when it comes to keeping you connected at all times. In addition to Wi-Fi and Bluetooth® stereo (A2DP), the quad-band GSM/GPRS/EDGE smartphone also supports UMTS/HSPA/HSUPA networks and has built-in A-GPS. With Windows Mobile® and mobile versions of Office applications, the Xperia™ X1 has the productivity angles covered. The smartphone also includes 400MB internal storage and a microSD™ memory card slot for more.

Key Facts

- Enter the world of 3G smartphones and discover video calling, streaming video, and a fast Web experience with multiple connectivity options
- Handwriting recognition lets you jot down notes, further expanding the input options that include a QWERTY keyboard and a touchscreen interface
- Windows Mobile® and portable versions of Microsoft Office® applications help you stay productive wherever you are

Tech Specs

- GSM/GPRS/EDGE (850/900/1800/2100MHz), UMTS3/HSPA (850/1900/2100MHz)
- Up to 10 hours of talk time
- Up to 500 hours of standby time
- Up to 400MB phone memory
- Wi-Fi (802.11b/g)
- Bluetooth® 2.0 +EDR
- 5.6 ounces
- 4.4 x 2.1 x 0.7 inches (HxWxD)

SONY

\$799.99 | Sony Ericsson | (877) 865-7669 | sonyericssonxperia.com

TAKEAWAY

Define your workday with a 3G smartphone that has no strings attached.



Treo Pro

Tired of the strings associated with buying smartphones from wireless carriers? With the unlocked Treo Pro, you can go directly to the source for your next professional smartphone: Palm. Designed with individual mobile professionals and mobile workforces in mind, you can buy one or buy in volume. The Treo Pro uses 3G networks, Windows Mobile® 6.1, Microsoft Outlook®, and Microsoft Exchange Server support to keep you in communication with your colleagues and the world.

With Wi-Fi (802.11b/g) and GPS built in, the Treo Pro will keep you connected to all the hotspots and navigation services you need around the office and during your travels. And the smartphone's touchscreen makes navigating easy. And speaking of travel, the Treo Pro is a GSM world phone that works on networks in 220 countries. Additional features include Bluetooth® 2.0+EDR, a microSDHC® card slot (32GB maximum), a 2MP digital camera, and a standard 3.5mm stereo headphone jack.

Key Facts

- Palm shortcuts for the things you do most
- Large color touchscreen and full keyboard
- GPS for navigation, turn-by-turn directions, and local search
- Functionality to perform as a high-speed modem for your laptop

Tech Specs

- HSDPA/UMTS/EDGE/ GPRS/GSM (850/900/ 1800/1900/2100)
- Up to five hours talk time
- Up to 250 hours standby time
- 256MB storage (100MB user available), 128MB RAM
- Built-in GPS
- Wi-Fi 802.11b/g with WPA, WPA2, and 801.1x authentication
- Bluetooth® 2.0+EDR
- 2MP camera with 8X digital zoom and video capture
- Microsoft® Windows Mobile® 6.1 Professional Edition
- MicroUSB 2.0 for synchronization and charging
- 3.5mm stereo headset jack
- 4.69 ounces
- 4.49 x 2.36 x 0.53 inches (HxWxD)

palm®

\$549 | Palm | www.palm.com

Quick Guide To Notebooks & Portables

by Tessa Warner Breneman

Component Choices

WHEN purchasing a notebook or portable device, there are many features and components to consider, and you'll likely encounter a few unfamiliar terms during your search for just the right device, as well. The key to making a good purchase is to understand your basic options.

First, you should decide whether you need a single-core or dual-core processor. (A dual-core processor will be more efficient and lets you perform twice the work in the same amount of time.) You also need to consider system memory and whether 1GB will be adequate, or if you should purchase 2GB or more and extend the lifetime of your machine. Built-in Ethernet is becoming standard on many portable devices, but be sure yours supports the latest wireless technology standard, 802.11n. When shopping for any device, weight and design are very important considerations: You probably don't want to lug a heavy desktop replacement notebook through airport security.



The Extras

PORTABLE devices have evolved to offer some very useful added features, such as built-in wireless technology, Bluetooth capabilities, and support for Blu-ray Discs. Some notebooks also offer as many as six USB ports and advanced color technology for your display. Fingerprint readers provide extra security for data, and a freefall sensor adds physical protection to your hardware.

When looking at extra features, consider how you'll use your device. For example, an integrated Web cam microphone could be useful for remote meetings. Several UMPCs (Ultra-Mobile PCs) have touchscreens that recognize handwriting and include GPS navigational software. Also, some MIDs (mobile Internet devices) offer high-definition video and audio compatibility.



Optimal Configuration For Vista

HOW do you know if you're getting the most from Vista? The minimum requirements for running Vista are 512MB of RAM and an 800MHz processor. Some laptop manufacturers, such as Dell and IBM, say you're better having at least 2GB of RAM. You'll need at least 1GB of RAM, a 128MB graphics card, and a 1GHz processor to experience the Aero user interface on Vista.

Vista has features, such as SuperFetch, that require more gigabytes of memory than Windows XP apps. SuperFetch takes data from the hard drive and stores it on available RAM so it's accessible from the processor, which would ultimately require more than the suggested amount of RAM. If you're purchasing a computer rather than merely upgrading your OS, be sure you get your money's worth by purchasing a notebook with at least 2GB of RAM, a 1GHz processor, and a 128MB graphics card.



TYPES OF PORTABLES

Notebook—A notebook (aka laptop) is a battery- or AC-powered PC. This portable computer is generally smaller than a briefcase in size.

Subnotebook—This is a notebook computer that weighs 4 pounds or less. Generally, these computers have external disc drives to cut down on size and weight.

UMPC (Ultra-Mobile PC)—Created by Microsoft, a UMPC is lightweight (weighing 2 pounds or less) and uses a hard drive to store all of its data. UMPCs run the Windows Vista operating system.

MID (mobile Internet device)—The MID is between a handheld computer and a UMPC in terms of size and can provide the same entertainment and information features as UMPCs.

YOU GET WHAT YOU PAY FOR

\$600 will get you:

- A standard-sized notebook
- A 2GHz or less dual-core processor
- 2 to 3GB of RAM
- 160GB of hard drive space
- Vista Home Basic

\$1,000 will get you:

- An ultra-portable or standard-sized notebook
- A 2GHz dual-core processor
- 3 to 4GB of RAM
- 250 to 320GB of hard drive space
- Vista Home Premium

\$2,000 will get you:

- An entertainment, standard-sized, or ultra-portable notebook
- 2.1 to 2.2GHz enhanced dual-core processor
- 4GB of RAM
- 400GB of hard drive space
- Vista Home Premium or Ultimate

TAKEAWAY

This tablet PC serves up ultraportable ideas—with a twist.



ThinkPad X200 Tablet

For versatility on the go, it's hard to beat a convertible tablet (that is, one that features a swivel screen and works as either a notebook or a tablet PC) that, in addition to everything you'd expect from a business notebook, delivers a rich multimedia experience, a bright screen that works indoors or outside, and runs for up to 10.3 hours on a single charge. That's what you get with Lenovo's new ThinkPad® X200 Tablet. It also features a heavily tested quad-alloy hinge, shock-mounted storage, and magnesium-alloy covers so you can make use of all the X200's flexibility without worrying about wear and tear.

In addition to the specs listed on the right, the X200 includes a SmartCard reader, built-in Wi-Fi connectivity, and a 4-cell Li-Ion battery. Upgrade options include integrated AT&T Mobile Broadband for 3G cellular connectivity, a 2GB Intel Turbo Memory hard drive cache, Bluetooth®, a fingerprint reader, a 1.3MP integrated camera, and an 8-cell Li-Ion battery.

Key Facts

- Power Management and BatteryStretch features permit greater efficiency and up to 10.3 hours of battery life
- Innovative options include GPS, WiMAX, and Ultra-Wideband
- Improved stereo speaker performance combined with an optional integrated camera and dual-array digital microphones provide an intense multimedia experience
- Different display options match various users' needs; all panels feature wide viewing angles combined with very low reflectivity to keep users productive even outdoors

Tech Specs

- 12.1-inch WideView WXGA display (Multi-Touch + MultiView LED backlit optional)
- 3.5 pounds (with 4-cell battery)
- Choice of Intel® Core™ 2 Duo processors
- Genuine Windows® operating systems available
- 1GB PC3-8500 DDR3 SDRAM (upgradeable to 4GB 1066MHz DDR3)
- 80GB hard drive (upgradeable to 200GB; 64GB or 128GB solid-state drive optional)

\$1,894 base price | Lenovo | www.lenovo.com

TAKEAWAY

The new MacBook Air adds more power without losing its thinness.



Image courtesy of Apple

MacBook Air

Other vital specs aside for the moment, take note of two key aspects of Apple's newest MacBook Air: It runs for up to 4.5 hours on a single charge, and it contains a revolutionary graphics processor that, with 16 parallel processing cores, serves up five times the 3D performance as previous MacBook models. What's more, the Air hasn't gained any weight; at an even 3 pounds, the MacBook Air retains slim dimensions of 0.16-0.76 x 12.8 x 8.94 inches (HxWxD).

The newest model also comes with a 50% increase in storage space, offering a 120GB 4,200rpm SATA hard drive standard or an optional 128GB solid-state drive. The MacBook Air comes with your choice of a 1.6GHz or 1.86GHz Intel® Core™ 2 Duo processor and features 2GB memory, Bluetooth® 2.1 +EDR, and Wi-Fi (802.11a/b/g/Draft N) connectivity. The specs are impressive, but pick up a MacBook Air and you'll be equally impressed with its construction, LED-backlit display, and backlit keyboard.

Key Facts

- Still ultrathin, Apple's newest MacBook Air adds more graphics power and 50% more storage capacity
- The LED-backlit display offers not only a perfect picture, but also an environmentally friendly one, as it contains no mercury or arsenic
- Don't let its thinness fool you; each MacBook Air is constructed from a single piece of anodized aluminum for incredible durability

Tech Specs

- 13.3-inch widescreen LED-backlit display with 1,280 x 800 resolution
- 3 pounds
- 1.6GHz Intel® Core™ 2 Duo processor (1.86GHz optional) with 6MB shared L2 cache and 1,066MB front-side bus
- 2GB 1,066MHz DDR3 SDRAM
- Mac OS X v10.5 Leopard
- 120GB SATA hard drive (128GB solid-state drive optional)
- AirPort Extreme Wi-Fi (802.11a/b/g/Draft N)
- Bluetooth® 2.1 +EDR
- USB 2.0 port
- Mini DisplayPort for video output
- iSight video camera

Quick Guide To Mobile Gear

by Tessa Warner Breneman

There are plenty of gadgets and accessories to help you stay on top of your workload and your personal life. Here are some tips for purchasing mobile gear.

Know Your Type

BEFORE you run off to purchase extra storage for any device, determine exactly what you need. You'll have your choice of several types of expandable memory cards, including Compact Flash, SD, SDHC (High Capacity), microSD, microSDHC, xD-Picture Card, and Memory Stick.

To determine which memory card is compatible with your gadget, consult the device's users manual or the manufacturer's Web site. Most memory card manufacturers will provide a list of cards that are well-suited for a specific make and model of consumer-electronics devices, be it a digital camera, MP3 player, mobile phone, smartphone, or handheld PC.



Mobile Broadband

MOBILE broadband uses cell phone signals to connect your mobile phone and notebook to wireless high-speed Internet connections. The top wireless carriers—AT&T, Sprint, T-Mobile, and Verizon—each operate on different mobile broadband connections.

GSM (Global System for Mobile Communications) and CDMA (Code-Division Multiple Access) are the two available types of mobile broadband networks. CDMA is generally faster than GSM and can handle more users on a given frequency. GSM, however, has better global coverage and gives you a better connection should you be in a location with obstructed signals.



Accessorize

TO MAKE the most of your mobile device, be sure it's properly accessorized. Consider how and where you use your electronic devices. If you're a gym rat, for example, you'll want a comfortable armband and lightweight headphones for your digital audio player so you can focus on your workout and not fumble with your device. If you spend a lot of time in your car, a Bluetooth headset and dashboard mount for your smartphone will guarantee you keep your eyes on the road. If you are constantly on the go, a portable mouse is an ideal addition to your laptop bag. Finally, every traveler with mobile gear can benefit from a mobile power pack that lets him power several mobile gadgets at once.



Listen Up

WHETHER you want to listen to tunes on your iPod or chat on your phone, you'll need comfortable earphones or a headset. Headsets are useful when paired with Bluetooth technology because you can chat on the phone wirelessly.

Depending on your personal preferences, you can find earphones that rest on the outside of your ear or earbuds that rest inside the ear. Additionally, you'll encounter noise-cancelation technology, which cuts down on the ambient noise. Passive noise-canceling technology uses physical material to block noise, while active noise-canceling technology uses incoming sound waves (noise) and the sound waves produced by the active noise-canceling headsets to cancel each other out.



DIGITAL CAMERA 101

Road warriors, like yourself, can benefit from a digital camera to keep track of all the places they go. Here are a few terms to know as you compare models.

Digital zoom—You can use your camera's digital zoom to magnify and crop images recorded on your camera. Your photos are interpolated with pixels, so some of the quality of an image could be compromised through this process.

Megapixels—This number determines how large your photo prints will be. Note that a high megapixel count does not equate high-quality photos.

Optical zoom—This feature lets you physically move the lens to make your subject appear larger in the photograph. When it comes to optical zoom, a higher number is better.

Resolution—A high resolution means more pixels and more detail in an image; therefore, the higher the resolution, the higher the quality.

TAKEAWAY

Manage projects and track time from anywhere.



ProjjexMobile™

Projjex™ and ProjjexMobile™ help you plan projects and proposals, track time and tasks, and get your invoices out fast. And they do it easily, collaboratively, and securely so your whole team works together—including clients and subcontractors. Manage your projects from the palm of your hand with ProjjexMobile™. See project status in real time; view your team's progress; add notes and add time. All in a secure, ridiculously easy-to-use package. Get closer to your clients by inviting them to Projjex™. Share documents, notes and meeting minutes, at no extra cost to them or you.

Key Facts

- Runs on iPhones® and other browser-based mobile devices so you can manage your projects from anywhere
- Works in browsers on any computer; it's easy to share with your team
- There's nothing to download or install, so it's effortless to deploy
- Looks and feels like a desktop application, which makes it simple to learn and use
- Completely secure because it uses SSL encryption and no data is stored on phones
- A comprehensive API enables integration with current systems

SPECIAL OFFER

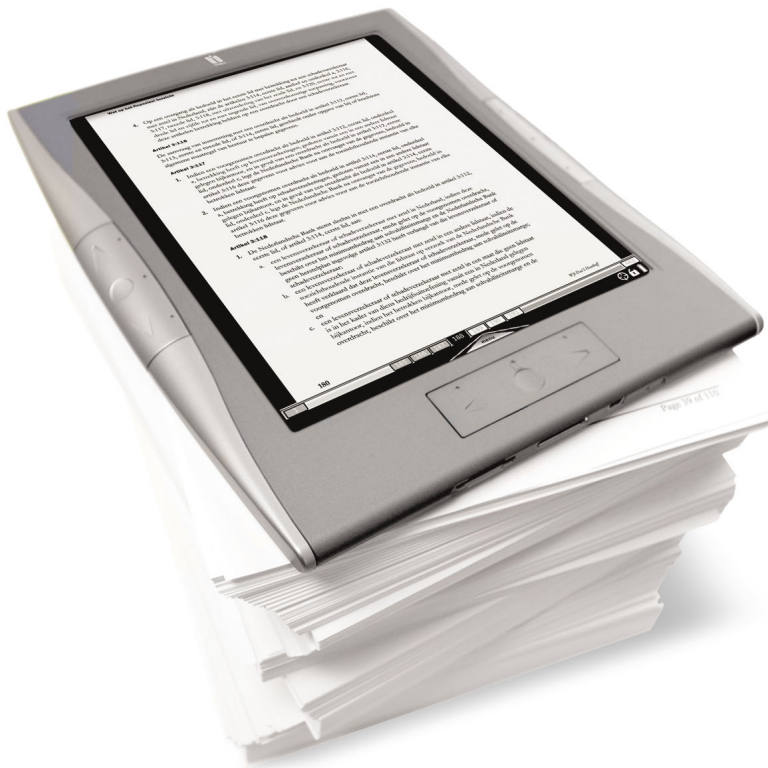
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\$9.95/month | Projjex Software Corporation | www.projjex.com

TAKEAWAY

"Business-class features or thin-and-light?" doesn't have to be a choice.



DR 1000S

With a 10.2-inch paper-like display, the iRex DR 1000 S is the world's largest yet thinnest E Ink-based digital viewer. A 16-level grayscale display makes reading HTML, PDF and other documents as sharp as reading ink on paper. Letter sized and A4 documents look great. It is the only product of its kind that allows users to annotate PDF documents and then save and share notes, scribbles, and underlined text. Using the iRex DR 1000S prevents the waste of billions of pages of printed paper each year, giving businesses and professionals a green environment for reading and writing.

Key Facts

- Paper-like display for reading letter-sized documents without conversion
- Wacom® Stylus-enabled touchscreen for note-taking and annotating documents
- SD Storage card (1GB) that holds about 1,000 books and is easily replaceable with larger cards to 32GB
- Long-lasting, rechargeable Lithium-Ion battery that delivers many days of use
- Over 40,000 eBooks and 300,000 RSS feeds from *Business Week*, *The Wall Street Journal*, and more through Mobipocket.com
- More than 800 newspapers through Newspapers Direct



\$859 | iRex Technologies | (925) 600-0920 | www.ereaderoutfitters.com

TAKEAWAY

You can't afford to miss out on 100,000+ Wi-Fi hotspots worldwide.

**Key Facts**

- One Boingo account provides access to more than 100,000 Wi-Fi hotspots in airports, hotels, coffee shops, and more
- Free Boingo software—available for both the Mac and PC—makes it easy to connect; the software automatically alerts you when you are in network and logs you in with a single click
- Have a smartphone with Wi-Fi? Boingo Mobile gives your phone access to thousands of hotspots, so you can enjoy browsing the Internet, downloading music, and connecting to email at broadband speeds
- Boingo Mobile is available for the iPhone and iPod touch, the Windows Mobile platform, Nokia S60 phones as well as Nokia's N800 and N810 tablets, Sony Ericsson UIQ, and Motorola Windows Mobile phones

Boingo Wireless

Boingo is the world's largest network of Wi-Fi hotspots—with more than 100,000 locations around the globe. Whether you want to get online with a laptop or smartphone, Boingo keeps you connected at airports, hotels, coffee shops, and more—all at broadband speeds. Best of all? The price: just \$9.95 per month for a laptop account that gives you unlimited access throughout North America or \$7.95 per month for a smartphone account that gives you unlimited access worldwide. With plans like that and a schedule like yours, you can't afford not to use Boingo.



Prices vary | Boingo | www.boingo.com

TAKEAWAY

Video from almost any source converts to a 62-inch virtual screen.



Key Facts

- Supports 2D & 3D Video
- Battery provides 5 hours of continuous use
- 24-bit true color with VGA Resolution
- Weighs under 3 ounces
- Built-in removable earphones and adjustable nose bridge

iWear AV920 Video Eyewear

Plug and play! The AV920 from Vuzix features our best mobile experience yet: a wearable virtual 62" big screen compatible with almost any audio/video device. Ditch your small screen and watch your movies with portable DVD players or personal media players in beautiful, crystal clear high resolution 2D and 3D. The AV920 also works with your video iPod! A small built-in lithium ion battery allows for five hours of continuous use, and the iWear's lightweight and ergonomic designs ensures long use in perfect comfort. The AV920 offers the ultimate big screen experience on the go.



\$349.95 | Vuzix | 800.436.7838 | www.vuzix.com

TAKEAWAY

Jetsetters and music lovers can escape in quiet, uninterrupted luxury.

**Key Facts**

- Reduces outside ambient noise by more than 99%
- Ergonomic design fits comfortably over the ears, enhanced by soft leather outer coverings and urethane foam padding
- Extended battery life provides up to 40 hours per charge
- Included cables offer two different lengths: a 27.5-inch version for convenient "tangle-free" use with your portable player, and a 59-inch version that's ideal for relaxed use in airplane seats
- Handy foldable construction makes for total portability
- Durable carrying case lets you put everything you need—headphones, all of your accessories, and your portable music player—in one place

Denon Model AH-NC732 Noise Canceling Headphones

If you are a frequent business traveler or commuter and you really love your music, the last thing you want is interruption from, say, airplane jet noise, the screech of the subway, or just the constant hum of everyday life. Denon's new luxury-class Model AH-NC732 Noise Canceling Headphones offer the perfect solution. The stylish, lightweight headphones transport you to a peaceful, music-filled world of your own. A special acoustic optimizer and 40mm driver unit produce rich, well-balanced, and dynamic sound, from the highest highs to the richest, deepest bass. You will always enjoy a thrilling audio experience, whether you're listening to Hendrix or Handel.

DENON

\$299 | Denon | www.denon.com

TAKEAWAY

Give your iPhone more than double the juice.



Key Facts

- Just snap it on—no cable required
- 1800mAh in a pocket-sized backup battery
- Built-in super-bright LED flashlight
- Built-in laser pointer
- Polymerized Lithium-Ion battery takes hundreds and hundreds of charges

RichardSolo Backup Battery for iPhone

This powerful, compact 1800mAh backup battery is designed for the iPhone 2G/3G and all iPod models. The Backup Battery just snaps on—it's that easy. It comes with a built-in flashlight, laser pointer, and wall and car chargers. Order the complete kit for only \$69.95 with free shipping. Satisfaction is fully guaranteed.

RichardSolo®

\$69.95 | RichardSolo | www.richardsolo.com

TAKEAWAY

Get turn-by-turn directions and 10M businesses right on your mobile phone.

**Key Facts**

- Voice and on-screen driving directions—full-color and 3D
- Over 10 million business listings including hotels, restaurants, Wi-Fi hotspots, and more
- Proactive traffic alerts with one-click rerouting
- Pre-plan trips online and easily download to your phone
- Available on over 225 mobile phones

TeleNav GPS Navigator™

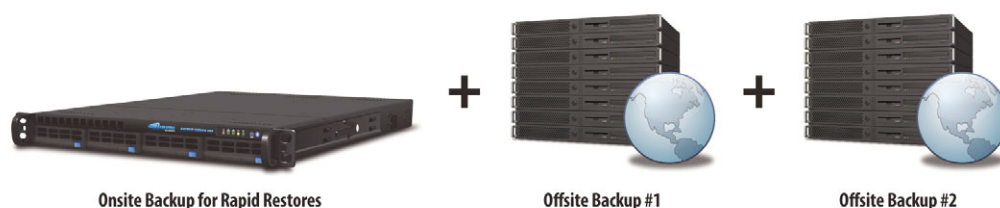
Business travel just got easier with TeleNav GPS Navigator. TeleNav makes your smartphone an even more powerful business tool with voice and onscreen driving directions to guide you where you want to be, automatically reroute you if you miss a turn, and help you find local businesses from over 10 million business listings. It ends the hassle and stress of paper maps and the expense of 411 calls. To minimize travel time, TeleNav checks traffic every five minutes along your route for slowdowns and incidents. With one-click intelligent rerouting, a new route will be calculated with an updated ETA.



\$9.99/month with 30-Day Free Trial | TeleNav® | www.telenav.com/pctoday

TAKEAWAY

Integrates local and secure offsite backup for disaster recovery.

**Key Facts**

- Offsite backup to two geographically separate locations
- Secure data transfer to off-site data center
- Redundant disk-based storage
- Best-of-breed data retention policies
- Single transfer from location to save bandwidth
- Centralized Web interface for granular controls
- Detailed, easy-to-use reports and usage graphs
- Quick and easy restoration from Web interface
- Fully featured client software for advanced data restore
- Direct FTPS data access with point in time restore

Barracuda Backup Service

The Barracuda Backup Service is an affordable, integrated local and offsite data backup and disaster recovery solution. Designed for organizations of any size, the Barracuda Backup Server creates a local copy of data and efficiently transfers the data offsite without placing additional burden on production servers. Offsite storage is monitored and managed by Barracuda Central as part of the monthly Barracuda Backup Subscription. The Barracuda Backup Service includes technical support and emergency assistance with restores in the event of a system failure or disaster. Combining local and offsite storage provides the best of both worlds—onsite backups for the fastest restore times and secure, offsite storage for disaster recovery.



Pricing starts at \$99 per month | Barracuda Networks | (888) 268-4772 | www.barracuda.com



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age of the TOUCHSCREEN

More People Are Getting Their Fingers On
Touchscreen Phones

Touchscreens have become part of the commercial landscape in recent years. They're in airport self-check-in kiosks, at grocery store check-out counters, on ATMs, and even at some gas pumps. Many of our smartphones, GPS units, and portable music players have them. And in the past couple of years, touchscreens have taken a leap further, accommodating gesture swipes rather than requiring careful stylus taps. Some even provide tactile feedback, such as a small buzz or audio click, which lets you feel like you're doing more than tapping on glass.

Several reports have documented the recent increase in touchscreen phone purchases. According to a recent report by Strategy Analytics, there will be 90 million touchscreen phones shipped to consumers in 2009. The same study showed that the sales of touchscreen phones are growing at a much faster pace than mobile phone sales overall, even though touchscreen phones still only make up a small percentage of the market.

Bonny Joy, senior analyst for wireless practices at Strategy Analytics, says the rise in popularity has to do with a combination of factors, starting with consumer interest in

the iPhone. The introduction of the iPhone cast a spotlight on the touchscreen market and forced the hand of other manufacturers to introduce similar devices. "There is not a single meaningful vendor in this market today that I can think of that does not have a touchscreen product in place," Joy says, "including Research In Motion, Nokia, Samsung, LG, and even more."

Touchscreens Through Time

Not all touchscreen technology is equal, however. Early mobile devices with touchscreen capabilities (such as the Palm Pilot and the Treo) used resistive touch technology, which requires the user to press

down on the screen in order to register a function. When the user presses down on the screen (with a stylus or fingernail), the top layer makes contact with the bottom layer for activation. Resistive touchscreens have a tendency to wear out because of the nature of the technology.

While resistive touchscreens still claim more than 90% of the market, more manufacturers are implementing capacitive touchscreen technology. Capacitive technology detects the capacitance that your finger introduces to several wires, and there is no pressure requirement. This makes a capacitive screen much more durable than its resistive counterpart. Capacitive touchscreens

“There is not a single meaningful vendor in this market today that I can think of that does not have a touchscreen product in place, including Research In Motion, Nokia, Samsung, LG, and even more.”

BONNY JOY, SENIOR ANALYST FOR WIRELESS PRACTICES, STRATEGY ANALYTICS



are designed to work with your finger, which introduces the ability to manipulate objects on the screen through gestures, and to drag and drop events.

In addition to the different types of touchscreen technologies, the devices on the market all have different levels of complementary hardware. Some touchscreen phones have yet to let go of the familiar hard-button QWERTY boards, track balls, and other navigational buttons. Others have confined the mechanics to a single home button.

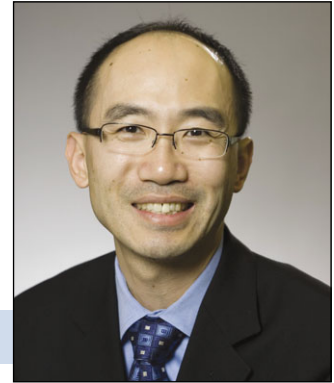
At the center of the touchscreen revolution is Synaptics. A Silicon Valley company that got its start producing human interface devices, such as touchpads for laptops, Synaptics later dipped into the portable music player market and, more recently, has been working with mobile phones. Synaptics invented ClearPad, a capacitive high-resolution touchscreen technology, and worked with LG to bring the technology into the LG Prada, which predated Apple's iPhone but failed to catch the eye of consumers, perhaps in part because it lacked 3G support. ClearPad's technology is the same type used in the iPhone, but neither Synaptics nor Apple will confirm the exact nature of the relationship between the two.

According to Dr. Andrew Hsu, technical marketing and strategic partnerships manager of Synaptics, the iPhone's introduction has boosted business for Synaptics. Prior to the iPhone, the company had considered itself an outsider to the mobile phone touchscreen arena. Mobile phones with advanced touchscreen technology, Hsu says, were a tough sell in pre-iPhone days. Now, with business on the rise, Synaptics finds itself the touchscreen technology provider for the newest wonderphone on the block: the T-Mobile G1, which runs the Google-backed Android operating system.

"I think prior to (the iPhone), it was questionable whether this was simply going to be another fad or whether it was going to be something that would be an established platform necessity," Hsu says, adding that both Apple and Google deserve a lot of credit for the touchscreen's current market outlook. "When you stop and think about it, [Apple and Google] are two companies that have basically hit grand slams with their very first mobile handset device. A lot of what the mainstream mobile media has been

“I think prior to (the iPhone), it was questionable whether this was simply going to be another fad or whether it was going to be something that would be an established platform necessity . . .”

DR. ANDREW HSU,
TECHNICAL MARKETING AND STRATEGIC PARTNERSHIPS MANAGER, SYNAPTICS



asking itself is why it took two outsiders to shake up the market.”

Once the iPhone turned the spotlight on advanced touchscreen technology, it became popular with users who enjoyed the on-screen benefits of that technology: simplicity, flexibility, and efficient use of a small amount of space. For example, when a touchscreen phone is in dial mode, the screen can show a numeric keypad and then display a QWERTY board for typing emails, instant messages, or text messages. An advanced touchscreen can show you any controls that are appropriate for what you're doing right now, such as the playback buttons for listening to music, and, likewise, rid the screen of buttons when, say, you are reading an article from the mobile Web edition of *The New York Times*.

"In a certain way it's the right type of interface control because the devices are getting smaller, and the screens are becoming a

larger percentage of that device real estate," Hsu says. "When you have two competing constraints like that, the space allocated for buttons and other types of mechanical controls begins to come at a premium. So the advantage of having a touchscreen," Hsu adds, "is that now the display can also be an input device."

Old Names, New Faces

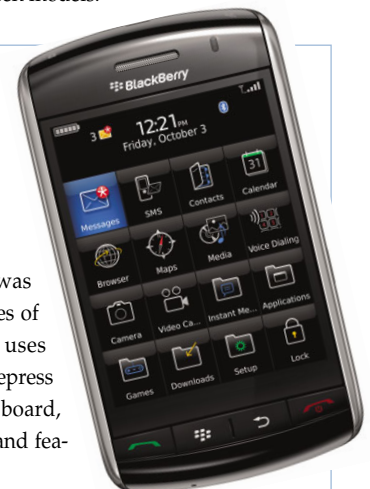
Today it seems that mobile phone makers are churning out touchscreen smartphones as quickly as consumers can get their fingers on them. Mobile phone manufacturers, such as Nokia, LG, RIM, Samsung, and others, have recently introduced touchscreen models, as have newcomers such as Google. Joy says that recent Strategy Analytics research indicates that the touchscreen market will continue to blossom through at least early this year. Here's a look at some of the newer touchscreen models.

Research In Motion BlackBerry Storm 9530

\$199.99 after discounts with two-year contract
www.verizonwireless.com

The BlackBerry Storm 9530 from Verizon Wireless was one of the most highly anticipated touchscreen phones of 2008. Its unique (for now) capacitive touchscreen uses SurePress technology, which enables the screen to depress slightly as you type. It has an on-screen QWERTY board, supports Verizon's 3G and EVDO Rev. A networks, and features built-in GPS with VZ Navigator.

The BlackBerry Storm includes all of the other features consumers are accustomed to seeing in a BlackBerry, including support for multiple email accounts. The Storm also has BlackBerry MediaSync so you can add your iTunes files to your phone, as well as applications for social networking sites.



smartphones

Samsung Omnia

\$199.99 after discounts with two-year contract
www.verizonwireless.com



The Samsung Omnia from Verizon Wireless is similar to the LG Incite in style and functionality. The Windows Mobile 6.1 Professional smartphone includes an on-screen QWERTY keyboard, a resistive touchscreen, and an accelerometer. The Omnia has built-in 802.11 b/g Wi-Fi and supports Verizon's high-speed EVDO Rev. A network. The phone also includes Verizon's VZ Navigator GPS program for easy road navigation.

The Omnia's 5MP camera includes automatic focus, zoom, and video capture, and the Omnia has business card reader capabilities. The Opera Mobile browser is a full HTML browser, which displays nicely on the Omnia's 3.2-inch high-resolution screen.

HTC G1

\$179.99 after discounts with two-year contract
www.t-mobileg1.com



The T-Mobile G1 is another capacitive touchscreen phone. Highly anticipated in 2008, the G1 combines a touchscreen with a QWERTY keyboard that slides out from under the main screen. The G1 also has a trackball to help users navigate. The G1 uses T-Mobile's 3G and EDGE networks and has built-in 802.11b/g Wi-Fi.

The real difference between the G1 and others in this roundup is the G1's Android mobile platform and the inclusion of Google applications; that is, the phone features tight integration with Gmail, Google Maps (with Street View), Google Talk, and YouTube. Android, like the iPhone platform, has been open to developers, which means there are scads of applications users can add. The Android Market is the go-to place for such apps. The G1 comes with some applications, such as Amazon's MP3 Store, installed and ready to use as soon as you open the box and activate the phone.

LG Incite CT810

\$199.99 after discounts with two-year contract
www.wireless.att.com



The LG Incite CT810 from AT&T is a sleek Windows Mobile 6.1 Professional smartphone with a resistive touchscreen. It offers 3G and EDGE network speed, built-in 802.11b/g Wi-Fi, and an on-screen QWERTY board. The Incite supports voice-guided, turn-by-turn GPS capabilities, and it has live video capture and playback through its 3MP camera, which you can share with friends via IM. An accelerometer and haptic tactile feedback are also incorporated.

The Incite includes AT&T's Mobile Music and Media Net technologies, and it supports a variety of music formats (MP3, AAC, eAAC, WMA, and WAV). You can stream radio, such as XM Satellite radio and Pandora stations, through the Incite, and it has built-in FM radio, as well as MusicID (identifies songs you are listening to). The Incite supports Xpress Mail, Microsoft Outlook, Lotus Notes, Yahoo! Mail, AOL, and Windows Live email, and it has Microsoft direct push email capabilities.

Fad Or Fixture?

With smartphones such as the iPhone, T-Mobile G1, and BlackBerry Storm stealing headlines and consumer attention, the big question running through minds of mobile phone manufacturers now is whether the touchscreen trend will burn out as quickly as it rose in popularity. Synaptics' Hsu doesn't think so. He says that software and applications for touchscreen platforms is only beginning to scratch the surface of possibility and that the touchscreen market will see more growth, fewer mechanical buttons, and better touch panel technology in the near future. "There is a lot of opportunity left," says Hsu, "now that the touchscreen has become a more established interface in the handsets."

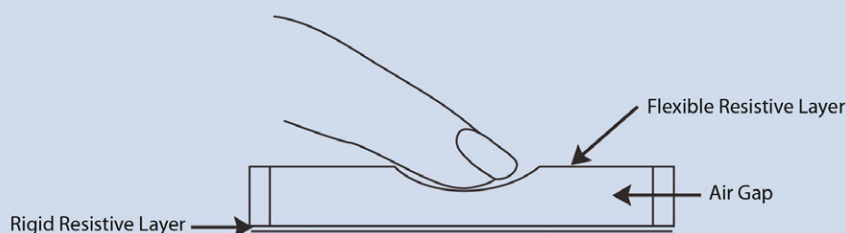
It's likely that touchscreen technology will only continue to improve and be more effective for mobile use.

by Tessa Warner Breneman

Resistive vs. Capacitive Technology

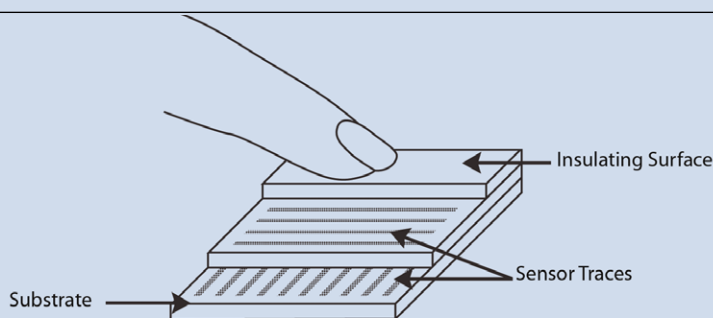
Resistive Technology

Resistive technology requires the top layer of material (typically made of clear polyester film) to make contact with the bottom layer of material (typically made of glass) in order to register a function. The two layers are separated by air.



Capacitive Technology

Capacitive technology consists of a solid-state sensor designed to trace the capacitance produced by touch or glide of a finger. The sensor is a standard printed circuit board (or flex-circuit technology), which does not require pressure to register a function.



Touchscreen Smartphone Showdown

All of these phones feature either a capacitive or resistive touchscreen with an on-screen keyboard. Here's a look at some of their other features.

Phone	Screen Size/Type	Business Features	Entertainment Features	Price	Web Site
HTC G1	3.17-inch capacitive	3G and EDGE network support; 802.11b/g Wi-Fi; Google Apps, including Gmail and Google Maps with Street View	1GB storage; Google-Talk, YouTube, and Amazon MP3 Store applications	\$179.99*	www.t-mobile1.com
LG Incite CT810	3-inch resistive	GPS; ActiveSync; 802.11b/g Wi-Fi; Xpress Mail for email access (Outlook, Lotus Notes and popular Web-based email services)	MEdia Mall and MEdia Net; AT&T Music; built-in FM radio; XM Satellite Radio; Pandora streaming Internet radio	\$199.99*	www.wireless.att.com
Research In Motion BlackBerry Storm 9530	3.25-inch capacitive	Capable of switching between GSM and CDMA networks; 3G; full HTML browsing; GPS; corporate data access	1GB storage (accommodates up to 250 songs); 3.2MP camera; tools for sites such as Facebook and Flickr	\$199.99*	www.verizonwireless.com
Samsung Omnia	3.2-inch resistive	GPS; business card recognition; Microsoft Office Mobile; Adobe Reader LE	5MP camera; FM radio; TV output; 8GB or 16GB capacities	\$199.99*	www.verizonwireless.com

* At press time, after discounts with two-year contract.

wireless ON THE VERGE

Smartphones Connect Us Like Never Before

Wireless capabilities in some form have become ubiquitous in smartphones, even if it's only Bluetooth enabling a user to connect a headset. An array of devices sport Wi-Fi, and all four major cellular carriers—AT&T, Sprint, T-Mobile, and Verizon Wireless—now offer 3G (third generation; voice and high-speed data) connections in some cities.

Smartphone users across the U.S. are waking up the power of 3G, with penetration surpassing Europe for the first time in 2008 (28.4% in the U.S. as opposed to 28.3% in the largest countries in Europe for June 2008) per digital marketing intelligence firm comScore. Wi-Fi adoption in smartphones also continues to accelerate. Research firm In-Stat predicts that by 2011 there will be more Wi-Fi-enabled phones than PCs.

This connectivity is altering the way we work with our phones. According to the Cisco Visual Networking Index, released in June 2008, mobile data traffic will double each year between now and 2012. By that time, we'll download or stream audio and video to our smartphones using 4G (fourth-generation) cellular broadband or WiMAX (Worldwide Interoperability for Microwave Access). We'll then transfer the video to monitors, televisions, or other displays using new

versions of Bluetooth and other short-range wireless technologies.

Coverage

All current-generation mobile phones offer at least 2G (digital voice and data) connections. Among smartphones, support for 3G is increasing. In the case of AT&T, which claims to have America's fastest 3G network, 18 of the 34 smartphones available from AT&T at press time supported 3G.

However, 3G is not available in all areas, and speeds can vary dramatically, especially if you are moving. For example, in the 300-plus cities where AT&T offers its fastest 3G service, HSDPA (High-Speed Data Packet Access)

and network segments, those that support EVDO (Evolution Data Optimized) Rev. A. Below that, phones and networks often support EVDO Rev. 0, which enables speeds of 400 to 700Kbps. T-Mobile users don't fare as well as users on other networks. The company's new 3G network offers speeds of up to 1Mbps, but in only 27 major cities as of the end of 2008. The good news is that many 3G smartphones let you talk and exchange data, watch video, or surf the Internet at the same time.

Phones with Wi-Fi connections perform better. Current-generation Wi-Fi phones support 802.11b/g (some support 802.11a/b/g). Wi-Fi networks are usually slower

This connectivity is altering the way we work with our phones. According to the Cisco Visual Networking Index, released in June 2008, mobile data traffic will double each year between now and 2012.

connections offer data transfer speeds that range from 700Kbps to 1.7Mbps. Elsewhere (in 13,000 cities and along 40,000 miles of highway), the downlink to your 3G AT&T phone will be 2G speeds—75 to 135Kbps.

Sprint and Verizon Wireless offer 600Kbps to 1.4Mbps downloads on their fastest phones

than 802.11g's theoretical speed of 54Mbps, and bandwidth erodes over distance. Nevertheless, assuming a 40Mbps connection, a strong, nearby access point, and 20 users on the network, you should be able to access the Internet with your mobile phone at 2Mbps.

Nearby & Nifty

Virtually all smartphones support short-range data transfer via Bluetooth, and a few still offer infrared. Infrared is a line-of-sight technology that uses high-frequency light waves (rather than the radio waves used in Wi-Fi or cellular) to transmit information at a range less than 3 feet. The technology never really took off in the PC market, at least in part due to the emergence of Bluetooth. However, a number of printers (especially HP LaserJets) support it, and several companies make inexpensive USB-based infrared adapters for PCs. More recently, Apple has begun touting infrared as a solution for expanding devices to near touch, as opposed to direct touch, which may bring infrared to your phone in a whole new manner.

Bluetooth has become the mack daddy of short-range wireless connection methods. Most current-generation smartphones support Bluetooth 2.0. Officially known as Bluetooth 2.0 +EDR (Enhanced Data Rate), the specification offers data exchange rates of as much as 2.1Mbps. Bluetooth offers more than two dozen profiles (data exchange protocols) including faxing, networking, and more.

Previously, many carriers locked down Bluetooth in phones to support only the headset profile. However, many carriers are enabling their smartphones to support more profiles. One that is popular and surprisingly absent in several phones is A2DP (Advanced Audio Distribution Profile), the profile that enables stereo audio over Bluetooth wireless. (For more on Bluetooth and its profiles, visit www.bluetooth.com.)

Where We Are Headed

After years of marketing buildup (and billions of dollars spent in infrastructure and technology development), carriers and manufacturers say they are on the verge of attaining the promise of wireless in mobile devices.

Cellular broadband. The ITU (International Telecommunications Union), which develops global telecommunications standards, has not yet announced the official 4G standard. However, indications are that when it arrives, 4G will offer reliable, secure mobile connections with total throughput exceeding 100Mbps.

In April 2008, at the SOFCON conference, Verizon announced it would begin rolling

out a 4G LTE (Long Term Evolution) network in 2010. In May 2008, at Morgan Stanley's annual Communications Conference, AT&T mobility head Ralph de la Vega made a similar announcement.

T-Mobile, the last carrier to arrive at the 3G party in the U.S., and Nortel announced in September 2008 that a test of 4G LTE technology had achieved speeds of 170Mbps (downlink) in a vehicle moving 42 mph within



A family wirelessly views images on a monitor transferred from a Bluetooth-enabled mobile phone via the Belkin F8T012-1-KDK adapter (\$49.99; www.belkin.com).

Why WiMAX?

If you follow technology, you've been hearing about the potential of WiMAX for so long you may wonder if it will ever come to fruition. The jury's still out on that, although handset maker Gigaset's CEO Jose Costa e Silva predicts 25% of the mobile infrastructure market will be WiMAX within five years.

WiMAX, for those who aren't up to speed, is the commercial name for the 802.16 protocol established by the IEEE. It transmits in umbrella fashion like Wi-Fi, but it covers a far greater area (3 to 5 miles for mobile devices without a direct line of sight), making constant citywide connections possible with multiple antennas. In real-world environments, WiMAX offers sustained user data rates of 2 to 4Mbps. That's faster than 3G, but slower than 4G, so what's the big deal?

The current specification for WiMAX, even though it's being deployed for mobile applications, wasn't designed for such use. The IEEE is working on a true mobile WiMAX specification, 802.16m, which should be completed this year. According to the IEEE's latest requirements document, 802.16m should be able to maintain some sort of connection (albeit degraded) at speeds of up to 217mph. It also is required to offer maximum network throughput of 1Gbps in nomadic (roaming) environments. Users may see data rates of 100Mbps or higher.

smartphones



Only a handful of devices currently support WiMAX. The Nokia N810 WiMAX Edition, which offers calling only via VoIP (Voice over IP), is one of them.

Several BlackBerrys offer Wi-Fi. The BlackBerry Bold is one of the latest to include Wi-Fi capability, in addition to 3G and Bluetooth 2.0 +EDR with A2DP support.

range of three cell towers. Nearly a month later, T-Mobile announced it would skip a 3G hardware upgrade in favor of 4G LTE, which it expects to test in 2010.

In the interim, AT&T plans to boost its 3G network to offer maximum throughput exceeding 20Mbps. T-Mobile says it may upgrade its existing 3G software to achieve maximum throughput of 14.4Mbps. Verizon has not announced plans to upgrade to EVDO Rev. B (9.3Mbps maximum throughput). As with current mobile wireless technologies, user device speeds will be lower than stated maximums.

WiMAX. Unlike its brethren, Sprint has picked WiMAX as its 4G solution. In September 2008, Sprint and Clearwire began jointly testing the Xohm (www.xohm.com) WiMAX network in Baltimore. We haven't had the chance to test it yet, but reports state Xohm achieves mobile download speeds of 3Mbps; nearly twice the top speed of AT&T's 3G network in late 2008.

Boston, Chicago, Dallas/Fort Worth, Philadelphia, Portland, and Washington, D.C., are among the locations to get Xohm next, and plans are for many more major cities to have it by 2010. The only problem for smartphone addicts is that Xohm currently works with PCs only. There are no WiMAX smartphones available in the U.S. (The only WiMAX smartphone, so far, is the HTC MAX 4G, which runs on Russia's WiMAX network, Yota, in Moscow and St. Petersburg.)

In November 2008, Sprint indicated it would develop cards for PCs that could switch between cellular broadband and WiMAX networks, but the company hasn't given any indication of when a WiMAX smartphone might debut. In the meantime, a WiMAX device such as the Nokia 810 WiMAX Edition (\$458 online at www.nseries.com) will let you make Internet calls via Wi-Fi or WiMAX.

Wi-Fi. On the Wi-Fi front, the timelines stretch out further. Draft N, the working

version of the upcoming 802.11n specification, touts a total maximum bandwidth of 300Mbps. However, mobile developers will likely not support 802.11 until the specification is final. According to the IEEE (Institute of Electrical and Electronics Engineers), final approval of 802.11n by all certifying bodies will occur in January 2010.

Bluetooth. On a separate front, Bluetooth is also evolving. (We're skipping infrared, because the latest crop of smartphones ignores it completely.) Bluetooth 2.1 +EDR, the next evolution of Bluetooth, debuted in devices in spring 2008, with Apple's MacBook Air among the first devices to include it. (This enhanced version is just beginning to make its way into cell phones.)

Bluetooth 2.1 +EDR brings lower power consumption, better security, and faster pairing than 2.0 +EDR. It also supports NFC (Near Field Communications), an extremely short-range technology that lets devices pair and exchange data automatically. Imagine



The 3G Wi-Fi-enabled HTC Touch Pro, available from Verizon and Sprint, has a pivoting touch-sensitive screen and a QWERTY keyboard.

T-Mobile's G1 represents the first phone to sport the Google Android OS; it is also 3G and Wi-Fi-compatible.

waving an NFC-enabled smartphone in front of a kiosk to buy tickets to a show, or tapping a business associate's smartphone to exchange contacts. We look forward to seeing this technology become more prevalent.

Present & Future

Some of these developments may seem slow in arriving, but carriers and developers have a lot at stake. In addition to massive technology investments, companies have to worry about user preferences. For example, carriers walk a fine line between functionality and battery life. In a 2008 Nielsen Company survey, longer battery life was by far the top wish list item for cell phones at 38%. Yet, every wireless feature you enable, even if you don't use it, drains battery life quickly.

Fortunately, in coming years we can expect battery life to increase and wireless technology costs to decline. These improvements, combined with more efficient Web browsers such as the one in T-Mobile's G1 (Google Android) device, are uniting to create a perfect storm of wireless opportunity for U.S. mobile users. Cisco expects the benefits to be so great that many people will eventually ditch their notebooks for smartphones altogether.

by Jennifer Farwell

Wireless Smartphone Showdown

A hot new crop of phones hit the market in mid- to late 2008. We compared them in terms of wireless savvy; a few of our favorites are below. All support 3G networks, and none support infrared, so we didn't need categories for those features. The list is far from all-inclusive. Other models to consider include the Samsung Epix, the Verizon XV6800, the Samsung Ace, and an oldie but goodie, the AT&T Tilt.

We've compiled a chart full of smartphones designed for international use. Frequencies are listed for standard networks, as well as wireless connectivity and the presence of a GPS receiver.

Phone	WLAN Features	Bluetooth	Battery Life (Talk Time)	Price	Web site
Apple iPhone 3G (8GB)	802.11b/g	2.0 +EDR	Up to 5 hours	\$199*	www.wireless.att.com
Research In Motion BlackBerry Bold 9000	802.11b/g	2.0 +EDR; A2DP	Up to 4.5 hours	\$299.99*	www.wireless.att.com
HTC Fuze	802.11b/g	2.0 +EDR	Up to 7.4 hours	\$299.99*	www.wireless.att.com
HTC G1	802.11b/g	2.0 +EDR	Up to 5.8 hours	\$179.99*	www.t-mobile1.com
HTC Touch Diamond	802.11b/g	2.0 +EDR; A2DP	Up to 4.2 hours	\$249.99*	www.sprint.com
HTC Touch Pro	802.11b/g	2.0 +EDR	Up to 4.19 hours	\$299.99* (Sprint) \$349.99* (Verizon)	www.sprint.com www.verizonwireless.com
LG Incite CT810	802.11b/g	2.0 +EDR	Up to 8.7 hours	\$199.99*	www.wireless.att.com
Samsung Saga i770	802.11b/g	2.0; A2DP	Up to 5 hours	\$199.99*	www.verizonwireless.com

* At press time, after discounts with two-year contract.

the traveling SMARTPHONE

Globalize & Mobilize For International Trips

When traveling domestically, you wouldn't dream of leaving your smartphone behind, right? So why would you forgo any mobile communication when traveling internationally? You simply wouldn't. You might be globetrotting to three different continents in one week, but that shouldn't prevent you from making a call home, setting up a meeting, or sending text updates to the office. All of this is possible with the right smartphone, a compatible international plan (if necessary), and a basic understanding of cellular networks abroad.

A smartphone can be defined loosely as one designed for global operation (also called a world phone) if it supports specific network frequencies, which we'll discuss in the next section. Other valuable features that make a smartphone well-suited to world travel include wireless and GPS capabilities. Overall, a world phone should provide the same digital freedoms you would expect to have in the United States, so you can plan your day and schedule your business trip without complications.

What's Your Frequency?

If your foreign travels take you mainly throughout Europe, the first thing you'll need is a GSM (Global System for Mobile Communications) mobile phone with support for

the cellular frequencies used in Europe. GSM phones use a combination of four bands: 850MHz, 900MHz, 1800MHz, and 1900MHz. North American cellular networks primarily support 850MHz and 1900MHz frequencies.

European networks operate on the 900MHz and 1800MHz bands. To use your smartphone in both the U.S. and Europe, be sure to identify that your phone is GSM tri-band using the 900/1800/1900MHz frequencies or a quad-band (850/900/1800/1900MHz) phone. If yours is a tri-band 850/1800/1900MHz mobile phone, it won't support the most common international band (900MHz), and therefore your service may be limited in European locations.

The CDMA (Code Division Multiple Access) network is more limited in global coverage, yet if you frequently travel to Canada, China, Mexico, New Zealand, South Korea, or Taiwan, you might be covered using a CDMA phone. Also, CDMA is well-suited to domestic use as popular carriers such as Alltel, Sprint, and Verizon Wireless use CDMA networks.

Owners of unlocked phones have some added flexibility when it comes to international travel. Because unlocked GSM phones let you

use any prepaid SIM (Subscriber Identity Module) card, you can purchase a SIM card for the country in which you'll be traveling. Prepaid cards are based on minute increments; the advantage is that you won't have to pay

Wi-Fi coverage will, of course, give you access to wireless networks in private and public hotspots, such as those in airports, hotels, and cafés.

outrageous roaming rates as you're provided with a local phone number. International long-distance rates, however, will still apply.

Unwire To Connect

Wi-Fi coverage will, of course, give you access to wireless networks in private and public hotspots, such as those in airports, hotels, and cafés.

This is always useful when you need to take care of some quick research online while you wait for your next flight in, say, London. Many smartphones use variations of IEEE 802.11 wireless (aka Wi-Fi) technologies, typically 802.11b and 802.11g; see the "Traveling Smartphone Showdown" sidebar for more details.

If you're a Sprint Nextel customer, you'll likely be the first to benefit from that company's WiMAX (Worldwide Interoperability for Microwave Access) network. A 4G network based on the IEEE 802.16 wireless standard, WiMAX is now available under Sprint's Xohm brand in Baltimore. WiMAX provides wireless connectivity with minimal interference and a range of up to 30 miles.

Changing Global Positions

GPS (Global Positioning System) navigation no longer seems like a frill; in fact, GPS is a feature on so many of today's smartphones that many now perceive it as a necessity, especially for extensive or international travel. Clarifying your precise location and accurately determining your next destination is the whole point of having GPS services handy. And when you're in an unfamiliar place, GPS

While you're abroad, you'll need to be aware what international roaming rates you might incur in various countries.

is a life-saver, helping you find such things as filling stations, difficult-to-find addresses, points of rendezvous, and medical facilities.

A-GPS (Assisted GPS), a relatively recent development in the world of GPS, is designed to enhance the precision of mobile location technology. To increase accuracy, the GPS receiver will acquire information from satellite transmitters, as well as local cellular towers, and process this data using assistance servers on a network for quick computing. A-GPS is ideal for anyone repeatedly caught inside "urban canyons" where densely packed skyscrapers block unassisted satellite signals. A-GPS is also helpful for finding your way around the interior of buildings.

World Wide Phones

While you're abroad, you'll need to be aware what international roaming rates you might incur in various countries. Be sure to check your carrier's Web site in advance of your travels for country-by-country breakdowns of standard roaming fees. Look for hidden or extra fees for worldwide text messaging and multimedia usage, as well.

Regardless of these stipulations, you'll need a phone that will help you get your job done while you're on the other side of the

world. Below we've highlighted multiple phones that should prove to be helpful companions while you're away from the office.

LG Incite CT810

\$399.99 with a two-year contract
www.wireless.att.com

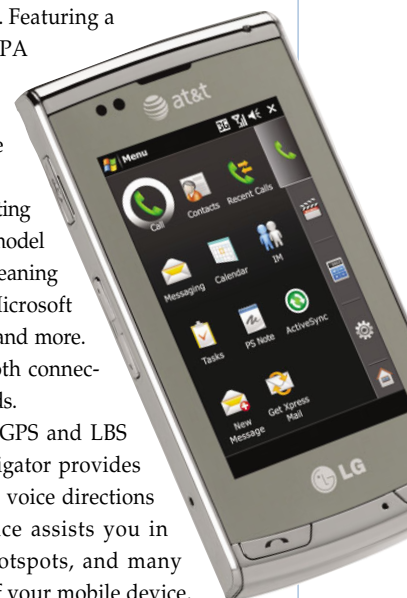
The Incite has a vibrant LCD touchscreen (including an on-screen QWERTY keyboard) that's designed for keeping you con-

nected. It's labeled as a global phone and for good reason. Featuring a quad-band GSM/GPRS radio along with UMTS/HSDPA (Universal Mobile Telecommunication System/High-Speed Downlink Packet Access) and 3G high-speed capabilities, the Incite will help you stay productive without the annoyance of slow data speeds.

The built-in 802.11 b/g Wi-Fi radio is perfect for connecting to Wi-Fi hotspots in any airport, foreign or domestic. This model runs Windows Mobile 6.1 and supports Xpress Mail, meaning you can check your personal and work messages on Microsoft Outlook, Yahoo! Mail, Windows Live, and more. Other wireless extras include Bluetooth connectivity, voice dialing, and voice commands.

The Incite's GPS system offers A-GPS and LBS (location-based services). AT&T Navigator provides real-time, turn-by-turn on-screen and voice directions for vehicular navigation; this service assists you in finding nearby businesses, Wi-Fi hotspots, and many other points of interest based on the physical location of your mobile device.

If you're into the multimedia extras, the Incite includes a 3MP camera with a panorama function and self-timer option. You can also use the Incite to capture, stream, or share video. For your listening pleasure, you'll find Windows Media Player Mobile 10, AT&T Mobile Music, XM Satellite Radio, and Pandora streaming.



Cellular Technicalities

High-speed data networks operate on multiple frequencies. Some frequency bands are available both in the United States and abroad, while others are only supported domestically by certain carriers. Take a look at this chart to determine which frequencies your smartphone supports.

	Network	Frequency Ranges (MHz)	Locations
GSM-based networks	GSM/GPRS/EDGE	850/900/1800/1900	North America, Africa, Australia, Europe, New Zealand
	GPRS	890 to 915	
	EDGE	850/900/1800/1900	
	HSPA (HSDPA, HSUPA)	850/900/1900/2100	
CDMA-based networks	CDMA	850/1900	U.S., Canada, the Caribbean, Mexico, Latin America, New Zealand, parts of Asia
	CDMA2000 1xRTT	2000	
	CDMA2000 EVDO	800/1900	
	WCDMA/UMTS	850/1900/2100	Europe, parts of Asia
	TD-CDMA, TD-SCDMA	1900/2010	Parts of Asia

smartphones

Nokia N96

\$776 (unlocked)
www.wireless.att.com

The N96 is the latest in Nokia's Nseries line. With up to 16GB of internal flash memory, 128MB RAM, 256MB total system memory, and support for microSD cards to expand storage further, the N96 offers plenty of capacity. And with the N96's 5MP camera and multimedia functions, you might need that extra room to store images and digital audio files.

As far as the interface goes, the TFT (thin-film transistor) LCD features a luminous 16 million colors for brilliant video and images. The design is slimmed down on the outside, while inside there's an auto-rotating accelerometer sensor and a top-slider that moves both left and right. The phone even has a mini kick-stand that makes watching videos even more convenient.

The N96 supports quad-band GSM/GPRS/EDGE networks. This model also offers dual-band (850/1900MHz, U.S. model) HSDPA, in contrast to sister phone N95's single band frequency; 3G data service, however, is only available for the U.S. version.

Both wireless (802.11b/g) and exploratory (A-GPS-compatible navigation, UPnP support) capabilities are built-in. Moreover, the navigation package comes with the free Nokia Maps application, which enables you to access maps of millions of locations in numerous countries. (Additional charges may apply if excessive amounts of GPS data is transferred through your carrier's network.) You can choose to add driving or pedestrian guides, as well.



Research In Motion BlackBerry Bold 9000

\$299.99 after discounts with two-year contract
www.wireless.att.com

The BlackBerry Bold 9000 is one of Research In Motion's more recent success stories. Available from AT&T, the Bold is a world phone that works in more than 205 countries for voice and more than 150 countries for data, using all four GSM bands and featuring UMTS and HSDPA connectivity. The smartphone also possesses Wi-Fi (802.11b/g) and Bluetooth capabilities.

As with all BlackBerry smartphones, the Bold uses the BlackBerry OS. The device includes strong email and messaging capabilities, including support for instant messaging services such as AIM, Windows Live Messenger, and Yahoo! Messenger. It includes a 2MP camera, a Web browser, and GPS.

In addition to letting you view business documents on a bright LCD, the Bold also lets you have some fun. Along with AT&T's standard media features, the smartphone includes the BlackBerry Media Player and supports the XM Satellite Radio service for streaming live XM broadcasts.

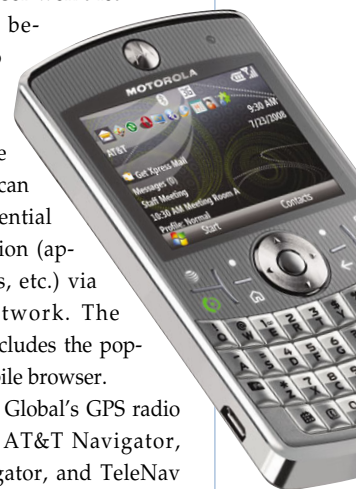
Motorola
Moto Q Global

\$199.99 with a two-year contract
www.wireless.att.com

The Moto Q Global is specifically intended for cross-continental travelers, supporting 3G connectivity and 3.6Mbps HSDPA for data. To remain active with your colleagues and check work contacts, you can use the phone's abundant array of messaging and email services, including Microsoft Direct Push, Xpress Mail, Good Mobile Messaging, and standard messaging (SMS, MMS, and IM).

The quad-band GSM/GPRS/EDGE radio will keep you in the know at high speeds, and the 325MHz processor won't let the phone lag behind. Thanks to the Microsoft System Center Mobile Device Manager, you can also access essential work information (applications, files, etc.) via enterprise network. The Moto Q also includes the popular Opera mobile browser.

The Moto Q Global's GPS radio operates with AT&T Navigator, TeleNav Navigator, and TeleNav Track; combined, these services will be able to provide highly detailed directions, including turn-by-turn instructions, traffic alerts, and field assignment management information.



Up & Comers

Maybe you're keeping your eye out for which phones will be hot on the global scene in the next year and beyond. If so, we've found a few more phones for you to track.

The Nokia N97, released in Europe in November 2008, runs Symbian S60 and offers integrated Wi-Fi. As a GSM quad-band phone, the N97 is poised to be the heir to the

N96's crown, when customers in the U.S. get their hands on this model.

Nokia is looking to combine GPS capabilities with mobile social networking by introducing the "social location" concept. Using A-GPS and a digital compass, the N97 can define its location and then interact with your social network. Through this feature, users will be able to update their current status (sharing pictures or videos with friends is one option) à la Facebook status updates.

The Samsung Saga is another world-friendly GSM phone. It supports 3G data speeds with CDMA2000 and 1x EVDO.

Running Windows Mobile 6.1 Professional and using the Opera browser, you'll enjoy getting online with the phone's 802.11 b/g Wi-Fi connectivity. The optical mouse makes the interface easy on the fingers.

Computer-maker Asus has made available the Asus P750 Unlocked with 3.5G connectivity. The phone is designed to assist business travelers with intuitive applications such as Meeting Time Planner, Auto Cleaner (to keep the device in "tip-top condition"), and Business Card Recognition for photographing contact data. The P750 uses Google Earth satellites to map your journeys. You

won't ever get lost thanks to the Location Courier, which should never fail to locate you if you're in a jam.

On The Other Side Of The World

After considering all of these travel smartphone features, how could you step on the plane without an efficient world phone? You'll be more productive and punctual with one of these mobile sidekicks. Just check these three features when making a purchase decision: supported network frequencies, wireless connectivity options, and the presence of GPS.

By Joanna Safford

Traveling Smartphone Showdown

We've compiled a chart full of smartphones designed for international use. Frequencies are listed for standard networks, as well as wireless connectivity and the presence of a GPS receiver.

Phone	Networks (Frequencies Supported)	WLAN Features	GPS Receiver	Price	Web Site
Nokia N96 (unlocked)	GSM/EDGE quad-band (850/900/1800/1900MHz); WCDMA/HSDPA (850/1900MHz)	802.11 b/g; UPnP support	GPS; A-GPS	\$776	www.nokiausa.com
Nokia E90 (unlocked)	GSM quad-band; WCDMA (2100MHz)	802.11b/g	GPS	\$812.50	www.nokiausa.com
LG Incite CT810	GSM quad-band; WCDMA/HSDPA (850/1900/2100MHz)	802.11 b/g	GPS	\$199.99*	www.wireless.att.com
Samsung BlackJack II SGH-i617 (refurb)	GSM quad-band; WCDMA/HSDPA (850/1900/2100MHz)	None	GPS	\$79.99*	www.wireless.att.com
Motorola Moto Q Global	GSM/GPRS/EDGE quad-band with 1xEVDO; CDMA/UMTS (850/1900MHz)	None	GPS	\$99.99*	www.wireless.att.com
Samsung Epix SGH-i907	GSM/GPRS/EDGE quad-band; WCDMA/UMTS/HSDPA (850/1900/2100MHz)	802.11 b/g	A-GPS	\$199.99*	www.wireless.att.com
HTC Fuze	GSM/GPRS/EDGE quad-band; WCDMA/UMTS/HSDPA (850/1900/2100MHz)	802.11 b/g	GPS	\$299.99*	www.wireless.att.com
Research In Motion BlackBerry 8820	GSM/GPRS/EDGE quad-band	802.11 a/b/g	GPS	\$249.99*	www.wireless.att.com
Research In Motion BlackBerry Bold 9000	GSP/GPRS/EDGE quad-band; WCDMA/UMTS/HSDPA (850/1900/2100MHz)	802.11 a/b/g	GPS	\$299.99*	www.wireless.att.com
T-Mobile Dash	GSM/GPRS/EDGE quad-band	802.11 b/g	None	\$299.99*	www.t-mobile.com
Samsung Ace SPH-i325	GSM dual-band (900/1800MHz) with 1xEVDO; CDMA (850/1900MHz)	None	A-GPS	\$99.99*	www.sprint.com
Research In Motion BlackBerry Storm 9530	GSM-quad-band with 1xEVDO; CDMA (850/1900MHz); WCDMA/HSPA (2100MHz)	None	GPS; A-GPS	\$199.99*	www.verizonwireless.com
HTC G1	GSM quad-band; WCDMA/HSDPA (1700/2100MHz)	802.11 b/g	A-GPS	\$179.99*	www.t-mobile.com

* At press time, after discounts with two-year contract.



The Latest Updates
& Services

Staying up-to-date with the latest software and service updates for your phone can be tedious and time consuming. We're here to help with information about the latest features and enhancements that apply to your mobile phone and carrier.

■ Call History Organization For BlackBerry Devices

Keeping track of your call history can be difficult with the BlackBerry's standard calling logs. Redwood Technologies (www.redwoodtechnologies.com) plans to change that with momentum, an application and service that lets you create custom tags for calls. You can use the tags to create reports that include information such as call duration.

■ Apple Releases iPhone 2.2 Update

The update incorporates new features and bug fixes. Enhancements to Maps add support for Google Street View and directions for public transit or walking. Users can also display addresses of dropped pins and have the ability to share location information via email. New goodies include the availability of podcasts from Apple's iTunes Store using Wi-Fi or the cellular network.

Bug fixes resolve issues with scheduled email fetching and the formatting of wide-screen HTML in your email messages. Safari benefits from improved stability and reportedly better performance.

■ AOL Sync Debuts For Windows Mobile Smartphones

AOL has released AOL Sync, an application for keeping your AOL contacts, calendar, and events synchronized with your Windows Mobile smartphone. AOL Sync can perform OTA (over-the-air) backups, as well as sync your AOL data with Outlook (separate plug-in required).

AOL Sync is a free service offered by AOL in conjunction with Funambol. The current version of AOL Sync lacks the ability to sync AOL email, but AOL plans to add that soon. AOL Sync works with Windows Mobile 5 and 6, with support for more than 500 smartphone models.

■ Google Sync For BlackBerry

Google Sync for BlackBerry, available free from Google Mobile, lets you sync your

Gmail contacts and calendar events with your BlackBerry's native address book and calendar application.

Whenever you make changes to your Google contacts or calendar or your BlackBerry address book or calendar, both sets of information will stay in sync.

■ Meebo Instant Messaging Comes To Android

Meebo, a popular Web-based instant messaging system, is now available for Google's Android smartphones. Meebo for Android lets you chat with your friends on AIM, Google Talk, MSN Messenger, and Yahoo!. It provides a single login and can display all of your instant messaging friends in a single buddy list, regardless of the IM service they use.

Meebo for Android supports real-time message notification, even when it's running as a background application. Meebo for Android is available for downloading from the Android Market.

■ Google Offers Voice-Enabled Search For iPhones

Google has released an update for Google Mobile App that brings voice-powered searches to the iPhone. You can speak a question, such as "Where is the closest gas station?", and Google Mobile App will digitize your question and send the file off to its servers, where Google will attempt to decipher the spoken phrase and return the results to your iPhone.

Google Mobile App uses your current location information to provide content relevant to your searches. For example, if you ask for pizza, Google will return a list limited to nearby restaurants. If you're looking for something outside the immediate area, you can include a ZIP code or city.

■ My MapQuest Finds Its Way To The BlackBerry

My MapQuest, part of MapQuest 4 Mobile, is now available for BlackBerry users on AT&T, T-Mobile, and Verizon Wireless networks. The service supports BlackBerry Bold, 8800, 8820, 8830, 8300, and 8330 models; support for additional models is coming soon.

The My MapQuest app lets you save maps and routes and access them from your

Internet-enabled smartphones. The service also lets you store information about your vehicle that it can use to calculate the estimated fuel cost for a trip, based on local gas prices.

■ IE6 For Windows Mobile Moves Closer To Release

Microsoft has been working on upgrading the Windows Mobile browser experience; IE6 for Windows Mobile is said to exhibit desktop-quality rendering. A sneak peek has been released in the form of an emulator for developers.

The emulator version of IE6 supports Jscript v5.7, Adobe Flash Lite 3.1, touch, and gestures, as well as multiple zoom levels. In addition, the new browser will be able to switch between mobile and desktop versions of a Web site when multiple versions are available.

No release date has been set, but IE6 for Windows Mobile is expected to be included in Windows Mobile 6.5, which may be released early this year.

■ MySpace Mobile Streaming Video Beta Available

Video-enabled smartphones can now access streaming video using the beta version of MySpace Mobile's video service.

MySpace Mobile (m.myspace.com) uses RipCode's On-Demand Video Transcoding technology to forgo maintaining video in multiple formats. Instead, the on-demand transcoding engine converts the video to the appropriate streaming format and sends it to your mobile device.

Even with the RipCode technology, video streaming is a data-intensive application. Video quality will be determined by the network and capabilities of your smartphone. There may also be additional costs or limits associated with your smartphone's data plan.

■ Nokia Releases Software Updates For E66 & E71

Several months after announcing them, Nokia has finally delivered software updates for its popular E66 and E71 smartphones. The updates are available for American and European models and include a new version of Mail For Exchange, as well as the newest version of Nokia Maps.

Mail For Exchange offers faster synchronization and browsing. Other changes include new camera viewfinder options.

■ Opera Mini Moves Beyond Beta

Opera Mini 4.2 has completed the beta phase of development and was released as a fully supported Web browser for most smartphones. Opera Mini produces near-desktop quality rendering of Web pages, making it a popular replacement for many of the limited Web browsers that come standard with smartphones.

If you use a Sony Ericsson or Nokia phone, Opera Mini can stream video from YouTube Mobile (m.youtube.com). For American and Asia Pacific users, Opera has created a new server park in the U.S. that should provide faster page downloads compared to other services.

Opera Mini 4.2 is available for any phone that can run Java applications. A special version is available for Android-powered smartphones.

■ Sprint Customers To Get Barcode Scanning Application

Sprint has teamed up with Scanbuy to offer ScanLife, a barcode reader that uses your phone's camera. ScanLife can't read standard barcodes you find in supermarkets and other stores. Instead, it reads special barcodes added to images, posters, advertisements, bus shelters, and soft drink cans.

When you scan an image of the barcode, ScanLife reads it and provides additional information in the form of a Web page, eliminating the need to enter a URL or perform a search to learn more about a product or service.

■ Schedule Recordings On The Run With TiVo Mobile

Did you forget to schedule a recording on your TiVo at home? Not to worry. TiVo Mobile lets you use your Internet-enabled phone to schedule recordings. Verizon Wireless subscribers have been using a similar service for nearly a year. TiVo Mobile, now in beta and available at m.tivo.com, lets you search by title, actor, or director and view TiVo recommendations, such as Daily Picks and Most Popular. After you find a show, you can record the episode, view information about upcoming episodes, or view recommendations based on the selected show.

by Tom Nelson and Mary O'Connor



Battery-boosting strategies are always handy, whether your battery indicator is running on empty or you discover you left your charger at home and need your BlackBerry to last all week. Follow these simple tips to keep your BlackBerry running when you need it most.

■ Tweak The Backlight

One of the best ways to improve battery life is to adjust your BlackBerry's screen and keyboard backlight. From the Home screen, scroll to and select Settings, select Screen/Keyboard, select Backlight Brightness, and then press the trackball to reduce the setting to 10. If you can still read the screen, then your battery will thank you. You can change the Backlight Timeout setting here, as well. Highlight the setting, press the trackball,

Screen/Keyboard	
Font Family:	BBClarit
Font Size:	
Font Style:	Plain
Font Smoothing:	Off
The quick brown fox jumps over the lazy dog.	
Backlight Brightness:	90 Sec
Backlight Timeout:	1 Min
Automatic Backlight:	45 Sec
LED Coverage Indicator:	30 Sec
Key Tone:	20 Sec
	10 Sec

Lower the Backlight Timeout setting to conserve power.

and select 10 Sec. This adjustment turns the backlight off after you leave your BlackBerry idle for 10 seconds. If you're not willing to work with a dimmer BlackBerry, you can press the power button once to turn on the backlight at the current setting (with the BlackBerry idle), press it again to momentarily increase the backlight to 100, and then press the power button a third time to turn off the backlight. When enabled, the Auto Backlight feature senses the current ambient light conditions to dim the backlight in lower-light situations and brighten it in sunnier conditions. Use this feature if you like using a brighter backlight setting, but disable it if you're using the lower backlight settings. Finally, press the Escape key, save the changes, and then press the Escape key again to get back to the Home screen.

■ Go Offline

Much of the BlackBerry's core functionality depends on its wireless capabilities, but those radios can quickly suck a battery dry. You can really improve battery life if you can live without Wi-Fi, GPS, Bluetooth, and cellular service. Scroll to and select Manage Connections from the Home screen to access the wireless connections screen. You can pick and choose the wireless radios you want to disable by scrolling to and selecting the appropriate checkboxes. To turn off all

BlackBerry tips

Boost Your
BlackBerry's Battery

connections, select the Turn All Connections Off option at the top of the screen. To resume wireless connectivity, access Manage Connections again and then click Restore Connections from the top of the screen. Press Escape to return to the Home screen.

The default five-bar network signal indicator gives you a rough idea of your current network connectivity, but there's a way to get a more accurate picture of your coverage. Press and hold ALT and then type **NMLL** to change the bar-style signal strength indicator to a numeric value measured in decibels relative to 1 milliwatt (dBm). A good signal will fall in the range of -40 to -90 (roughly equivalent to four and five bars), and anything lower than -90 (approximately one or two bars) indicates that your BlackBerry is struggling to maintain a connection. If this is the case, turn off the Mobile Network radio. When coverage is spotty, your BlackBerry will boost output to maintain a connection and retransmit dropped packets repeatedly, which is detrimental to the BlackBerry's battery life. To change the coverage indicator back to the bars, simply press and hold ALT and type **NMLL** again.

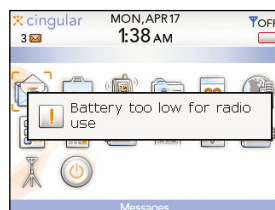
■ Delete Original Messages After Replying

The BlackBerry knowledgebase recommends deleting original messages after you've replied as another way to extend battery life. Select Messages from the Home

■ Basic Battery Care

To make sure you get the most out of your battery, you can practice some basic battery maintenance tips. The Li-Ion battery in your BlackBerry is best recharged often and typically before it is fully discharged.

Letting the battery deplete completely on a regular basis can permanently damage it. If you can't be without your BlackBerry for even a moment, consider buying a spare battery. If you're not using a battery for a prolonged period, charge it to about 40 to 60% of its maximum charge and then store it in a cool place, such as a refrigerator. Do not freeze your battery.



Your BlackBerry needs some serious juice to power all that functionality.

screen, scroll to any messages you've replied to, press the Menu key, select Delete, and then select On Mailbox & Handheld or On Handheld. Press Escape to return to the Home screen.

■ Compose One Message For Multiple Contacts

Rather than send out multiple messages to different contacts, you can ease the demand on your BlackBerry by composing a generic email and using the Add To, Add Cc, or Add Bcc commands to send the message to multiple

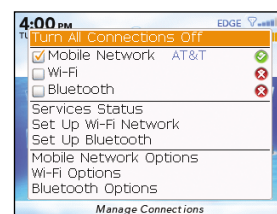
contacts. From the Home screen, select the Messages utility, press the Menu key, select Compose Email, input one or more email address in the To: field, and then compose the message. At any point you can press the Menu key and select Add To, Add Cc, or Add Bcc to include more people on the message. When you're finished, press the Menu key, select Send, and then press the Escape key to return to the Home screen.

■ Change Your Profile

Ringtones, vibration, and even the LED can all prematurely deplete an already low

■ Use Auto On/Off

BlackBerry's Auto On/Off feature lets you turn the phone on and off at designated times of the day. For instance, if you know you will only get calls during a given time period or don't want to be interrupted at night, set Auto On/Off and



Wireless can spell death for a low battery, so consider turning off some or all connections.

give your battery a break. From the Home screen select Settings, Options, and Auto On/Off; enable both Weekday and Weekend options; and then select the times you want your device to turn off and on. Press the Escape key, select Save, and press the Escape key twice more to return to the Home screen.

BlackBerry Help Site Gets An Update

What a difference a month makes. In last month's "BlackBerry Tips" article, we recommended BlackBerry Answers to get instant access to solutions for your BlackBerry inquiries. After our January issue went to press, RIM relaunched its mobile.blackberry.com Web site, the home of BlackBerry Answers, and made finding the content you're looking for much easier. To check out the improvements, launch the Browser, press the Menu key, select Go To, type **mobile.blackberry.com**, and press the trackball to navigate to the site.

battery. If you're looking to get more mileage from your BlackBerry battery, limit the use of these indicators. To turn off all indicators, select Profiles from the Home screen and scroll to and select Off. The Quiet profile displays the LED indicator only, which can improve battery life if you plan to keep the BlackBerry within view at all times. You can also tweak the notifications for all applications, such as Calendar appointments, emails, Push-to-Talk messages, SMS texts, and tasks, by pressing the Menu key from the Profiles selection screen and then selecting New Profile. Continue down the list, selecting applications to access the notification settings.

by Andrew Leibman



Instead of hauling around an iPod or other media device, you can enjoy similar functionality on a device already in your possession: your Windows Mobile smartphone. In doing so, you'll have one less device and one less charger to tote through the airport or around the world during your travels. Read on as we explore how you can put your Windows Mobile smartphone to use as a media player.

Media File Types

Windows Mobile smartphones come with Windows Media Player Mobile, which is capable of playing music and video files. You can store these files on your device or a media card, or you can stream the data over the Internet. If your mobile service provider supports television, and you have access to the appropriate service, you can also stream TV programs through Windows Media Player Mobile. You can play files that have Windows Media Digital Rights Management protection, as well.

In addition to the ability to play multimedia files, you can use Windows Media Player Mobile to organize those files on your device. The primary folders you'll use for organization are My Music, My Videos, My TV, and My Playlists.

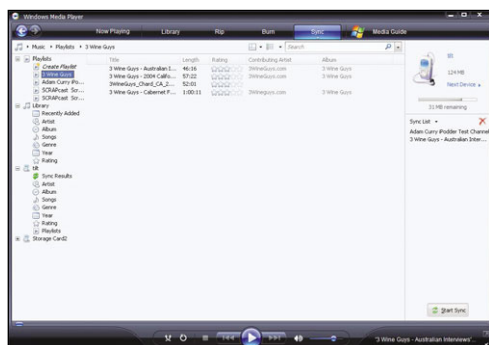
Load Content

There are a few ways to put media files on your Windows Mobile smartphone. You can download songs, ringtones, and videos directly to your device from the Internet, or you can load files using your computer. To download files via the Internet, tap Start and select Internet Explorer, and then navigate to the Web address where the content resides. You can play media files directly after they download by selecting the Open File After Download checkbox. By default, media files are saved to the My Documents folder on your phone.

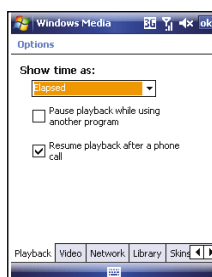
To sync media files from your computer with your smartphone, open Windows Media Player on your computer. (Click Start, select All Programs, and then click Windows Media Player.) Connect your smartphone to your computer and click Sync within Windows Media Player. Next, drag and drop media files into the right column of Windows Media Player. If you want the items to go to your smartphone's memory card, click Next Device

Windows Mobile tips

Turn Your Smartphone Into A Multimedia Powerhouse



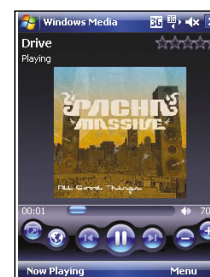
Sync media content with your smartphone using Windows Media Player on the PC.



Change Windows Media Player Mobile settings to suit your needs.



Resco Pocket Radio lets you listen to Internet radio on your smartphone.



Listen to music, watch television, and more using Windows Media Player Mobile.

in the area above the Sync List to display the storage card, and then drag and drop the files to the sync list. When you're ready to upload the files to your smartphone or memory card, click the Start Sync button. For best results, always use Windows Media Player to copy files to your smartphone or media card. Don't use Windows Explorer to copy files from your computer to your smartphone or media card, because it could result in unplayable files.

■ Supported File Formats

Windows Media Player supports Windows Media and MP3 file formats. Device manufacturers and mobile operators sometimes enable additional formats, as well. During recording, digital media files, especially video files, often get compressed using a codec. To play these files, you'll need a player that supports the appropriate codec. Windows Media Player Mobile 10 supports the following codecs: Microsoft Windows Media Audio codec versions 1.0, 2.0, 7, 8, and 9; Microsoft Windows

Media Video codec versions 7, 8, and 9; Microsoft Windows Media Video 9 Image codec versions 1.0 (used by Microsoft Photo Story 1 and 2) and 2.0 (used by Photo Story 3); Microsoft MPEG-4 codec version 2.0 and 3.0; and ISO MPEG-4 video codec version 1.0.

Windows Media Player Mobile can also play files that are protected by digital rights management, including Windows Media DRM files. To check if Windows Media DRM applies to a particular file, view its properties by tapping Start, selecting Programs, and then opening Windows Media from your smartphone. Choose Menu, select Library, and navigate to the song or video you want to check. Finally, tap Menu and select Properties.

■ When Things Go Wrong

If Windows Media Player Mobile isn't working as you'd like or expect, there are a few things you can try.

Reset hardware buttons. To view or change the default hardware button assignments for

Windows Media Player Mobile, tap Start, Programs, and Windows Media. From the Playback screen, tap Menu and Options, and then select the Buttons tab. To get to the Playback screen if you're not already there, navigate to a media file and tap Play. If necessary, tap the Right scroll arrow at the bottom of the screen to view the Buttons tab. To change a button assignment, tap a control, then tap Assign and press the button you want to assign to the chosen function. Alternatively, you can tap Reset to assign the default function to a button. After making changes, tap OK.

Resume playback after a call. Windows Media Player Mobile will automatically pause media playback when you make or receive a call, and it resumes playback after the call ends. You can change this setting so your phone doesn't resume automatically by navigating to the Playback screen, tapping Menu, selecting Options, and navigating to the Playback tab. Deselect the Resume Playback After A Phone Call checkbox and tap OK.

Change video playback options. To shrink a video so it fits your smartphone's display or to play a video automatically in full-screen mode, navigate to the Playback screen within Windows Media Player Mobile. Next, select Menu and Options; navigate to the Video tab; and then select Never, Only When Oversized, or Always in the Play Video In Full-screen field. You can also select the Scale To Fit Window checkbox. Finally, tap OK. If you ever want to override the Never and Only When Oversized options when playing a video, you can do so by tapping Menu and selecting Full Screen.

by Jennifer Johnson

Additional Players & Services

Windows Media Player Mobile isn't the only way to get and play content on your Windows Mobile smartphone. Many carriers offer live, streaming television for an additional fee. For example, there's AT&T Mobile TV, Sprint TV, and V CAST Mobile TV from Verizon Wireless.

You can stream many other types of content to your Windows Mobile smartphone, as well. There are radio streaming services, such as Pandora for Sprint or AT&T (price varies; www.pandora.com/on-the-go), which lets you listen to personalized Internet radio, or Resco Pocket Radio (\$19.95; resco.net), a player and recorder that provides streaming radio broadcasting. Another add-on program, Tunesync for Windows Mobile (\$9.95; www.pocketmac.net), lets you sync your music from iTunes playlists to your smartphone.

Nokia Tips

A Handful Of Handheld How-Tos

■ Set Up Voice Commands

Nokia's voice commands let you perform a variety of hands-free functions, such as make calls, launch applications, switch profiles, and more. To make a call, hold down the Voice key (consult your phone's documentation to determine the location of the Voice key), wait for the tone, and then speak the name or nickname of the person in your contacts. To switch profiles using voice commands, press the Voice key and speak the name of the profile you want. To check your voicemail, press the Voice key and speak the phrase "voice mailbox." Say "Bluetooth" to turn on your Nokia's Bluetooth radio. To record a message, say "voice recorder."

If saying "voice mailbox" is too cumbersome for your tongue, you can manually change the voice command for that function. Press the Menu key; select the Tools folder; choose Voice Cm, Voice Mailbox, and Change Command; and then type **voicemail** or something similar. You can also change the default voice commands for Profiles, Bluetooth, or Voice Recorder by selecting the appropriate item from the Voice Cm folder.



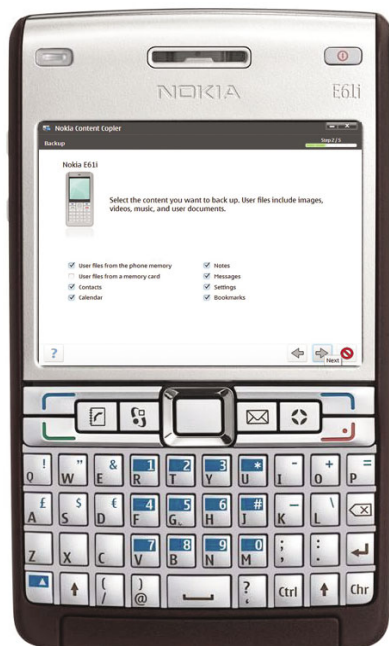
You can manually change the voice commands for various functions.

■ Find Your Own Number

Whether your Nokia is new or you just have too many numbers to keep track of, forgetting your phone number can be frustrating. To locate your Nokia S60 3rd Edition's phone number, press the Menu key and select Contacts. Next, select Options, SIM Contacts, SIM Directory, and Options, and then select My Numbers.

■ Enable Anykey Answer Mode

This handy feature lets you press any key on your Nokia to answer incoming calls. On your S60 3rd Edition Nokia, press the Menu button; select Tools, Settings, and Call; and then scroll to the Anykey Answer



It's a good idea to back up your data regularly.

option. Press the Navi scroll button to turn the feature on.

■ Don't Take Busy For An Answer

Nokia S60 3rd Edition smartphones come with a feature that lets you automatically redial a phone number (as many as 10 times) when you get a busy signal. To enable automatic redial, press the Menu button; select Tools, Settings, and Call; scroll to the Automatic Redial Option; and then press the scroll button to turn the feature on.

■ Use Speed Dialing

Using the Speed Dialing feature, you can press and hold a single digit to quickly dial a phone number. To enable Speed Dialing, press the Menu key; select Tools, Settings, Call, and Speed Dialing; and then press the scroll button to turn the feature on. To configure a Speed Dial number, press the Menu key, select Tools, and choose Spd Dial. Next, select the number key you want to assign, press the scroll button, select Assign, select the contact you want to assign to that speed dial number, and then select the appropriate number (mobile, home, business, and so on) to finish. To delete a Speed Dial number, select the assigned number, choose Options, select Remove, and then choose Yes.

by Andrew Leibman

Manage Memory

You'll need to get familiar with your Nokia's memory management features to keep it useful for the life of the phone. To inventory your Nokia's current memory status, press the Menu key, press the Options softkey, select Memory Details, and then select Phone Memory or Memory Card to view the amount of memory in use, how much memory is available, and the type of data consuming your phone's memory. We explore several tips that will come in handy when installing new applications, clearing out the old you don't use anymore, performing risky operations, and making sure your phone has enough memory to perform at peak levels even when running demanding apps.

Back up & restore. It's always a good idea to back up your phone's data when performing any core operations, such as updating the phone software or installing apps, which potentially put data at risk. To back up your S60 3rd Edition Nokia to an installed memory card, press the Menu key; select Tools, Memory, Options; and then select Backup Phone Mem. When prompted, select Yes to create the backup and overwrite the existing backup. Creating the backup takes only a few minutes. To restore from your memory card, press the Menu key; select Tools, Memory, Options, Restore From Card; and then select Yes to confirm the operation. Select OK and let the phone restart.

To back up your Nokia to your PC, use a USB data cable to connect the phone to your PC, select PC Suite on your phone, and then launch the Nokia PC Suite on the PC. Click the Backup icon to launch the Nokia Content Copier, click the Backup button to initiate the operation, and choose the content you want to back up on the following screen. Then Click Next, select a destination for the backup file, click Next, and click the Close

icon to close the utility. To restore a backup from your PC, click the Backup icon from the Nokia PC Suite menu, click the Restore icon, and select the desired backup file to restore from the following screen. Then click Next, select the data you want to restore, click Next, and then click Close.

Delete old messages. Your message folders can get stuffed with old messages if you don't do some regular housekeeping. To free up additional memory, press the Menu key, select Messaging, select the Inbox, and then delete any old messages you no longer need. You can highlight individual emails and press the Backspace key to delete them one at a time. You can delete all of them by pressing Options; selecting Mark/Unmark, Mark All, Options, and Delete; and then choosing Yes. It's also a good idea to clean out your Sent folder and any folders you set up to automatically retrieve email using the same procedures described above.

Delete cookies & clear cache. Clearing out the cookies and cache folders can free up memory and speed up your Web browsing. Press the Menu key, select Web, and press the Options soft key. Next, select Advanced Options and Delete Cookies. When you see the Cookies Deleted message, press the Options softkey again, select Advanced Options, and then select Clear Cache.

Uninstall apps. To remove software you don't use anymore, press the Menu key, select the Installations folder, and then open the Applications Manager. Next, scroll to and select the application you want to uninstall, press Options, select Remove, and then select Yes to confirm the operation. If you uninstall an application that is vital to the operation of another application, the remaining application will likely stop working.



browsing and streaming

More Ways To Enjoy Your Smartphone

You've found yourself waiting in the airport on more than one occasion, with only the ticking of your wrist-watch to entertain you. Whether you want to keep track of information that directly affects your business travel or are looking for more fun ways to pass the time, your smartphone browser can provide you with what you need to keep busy.

You already know how to use your smartphone to check your office email or review important documents, but you may not have realized that your smartphone's browser can double your productivity options and open the door to mobile entertainment. For example, you can stay connected to your personal email on Gmail, MSN/Hotmail/Live, and Yahoo!. Simply visit your preferred email provider's mobile Web site.

MSN (mobile.msn.com) and Yahoo! (beta m.yahoo.com) both let you access your email from your smartphone by simply visiting the mobile version of the main site. Gmail (m.google.com/mail) does, too, but you can also download a free mobile Gmail application that will install Gmail on your smartphone.

■ Mobile Mania

Email isn't the only way to use your smartphone's browser. There are plenty of mobile sites that you'll find useful or just plain fun to use while you're traveling. Read on to discover some mobile sites that are practical and entertaining.

National Weather Service

mobile.srh.weather.gov

This site is useful whether you're traveling or just curious about the current weather forecast. The National Weather Service's mobile site offers many of the same features as its conventional site, including a quick search for warnings, watches or advisories, and satellite images of various locations in the world. To check the weather in your area, visit the site and type in the city and state or the ZIP code. The results include links to a seven-day forecast, radar, and current weather conditions.

Orbitz Travel

mobile.orbitz.com

This mobile site is ideal for when you're stuck in the airport or even if you're waiting

for your colleague's flight to arrive. You can use the Orbitz Travel site to check your flight status by clicking the flight status link, entering an airline and flight number, selecting

the date, and tapping Go. If you are in a bind, you can even use this mobile site to check hotel availability in large cities. If you tap the Traveler Update and enter your city, you can

receive additional information about the local airport and weather.

■ Streaming Media

There are countless mobile Web sites that you can browse on your smartphone. But you can also stream music and videos from several Web sites that you may already be familiar with. Check out the following music and video streaming sites for possible support for your smartphone.

YouTube

m.youtube.com

If you're an avid YouTube viewer, telling you how you can access thousands of videos with your smartphone might not be the wisest idea. But that doesn't change the fact that you can search for your favorite YouTube videos and browse YouTube's Top Rated submissions regardless of where you are, all through the site's mobile version. With just a few simple steps, you can even upload videos directly from your mobile phone and manage your YouTube account, just as you would from your personal computer.

Pandora Internet radio

pandora.com

Listen to your favorite artists and discover new ones with Pandora Internet radio. If you don't already have a free account, you'll need to create one and begin adding music to your radio station. To listen to your customized station while you're on the go, browse to the mobile section of Pandora's Web site and enter your phone number;

this prompts the site to send a mobile link to your smartphone. Pandora mobile is only available for select Sprint and AT&T phones, so be sure to check your smartphone's compatibility.

SlingPlayer Mobile

www.slingmedia.com

If you already use SlingPlayer, you should know that you can also use your smartphone to catch up on the TV shows you missed while you were in-flight. SlingPlayer Mobile works the same way as when you access your at-home media via your laptop or other computer, except that your favorite shows will be in the palm of your hand. In order to enjoy your at-home media, you'll need to download and install a paid version of SlingPlayer Mobile. The software is compatible with Windows Mobile, Palm OS, and Symbian.



With SlingPlayer Mobile software, you can watch TV recorded at home on your smartphone.

already familiar with XM Radio, you'll receive music stations commercial-free. And you don't have to subscribe to any other XM Radio service in order to use the mobile service. To get started, visit the XM Radio Web site and download the application to your phone.

XM Radio Mobile

www.xmradio.com

If you can't live without music, check out XM Radio's mobile service. When you set up a monthly subscription plan, you can receive 25 music channels on your Alltel or AT&T phone, or 20 channels on your BlackBerry. If you're not

Amazon

amazon.com/gp/aw/h.html

Any time is a good time for a little online shopping. Amazon's mobile service works much the same way as Amazon's PC site. You can search for products, browse the results, and purchase books, movies, electronics, and more. Shopping on your smartphone is just as easy as on your PC, as Amazon mobile includes product photos and customer reviews to help you make the best buying decisions. You can even access your Wish List and manage your personal Amazon account.

Yelp Mobile

mobile.yelp.com

If you've found yourself in an unfamiliar city with a growling stomach, this mobile site will be your life-saver. Yelp Mobile can help you find local restaurants near you. Simply visit the site and type in the kind of food you're craving and your location. Yelp will serve a plentiful list of eateries, complete with mapped directions and the restaurants' phone numbers. If you're unsure about which of the results to choose from, you can check out each restaurant's reviews to find out what others have said about each establishment.

Fandango

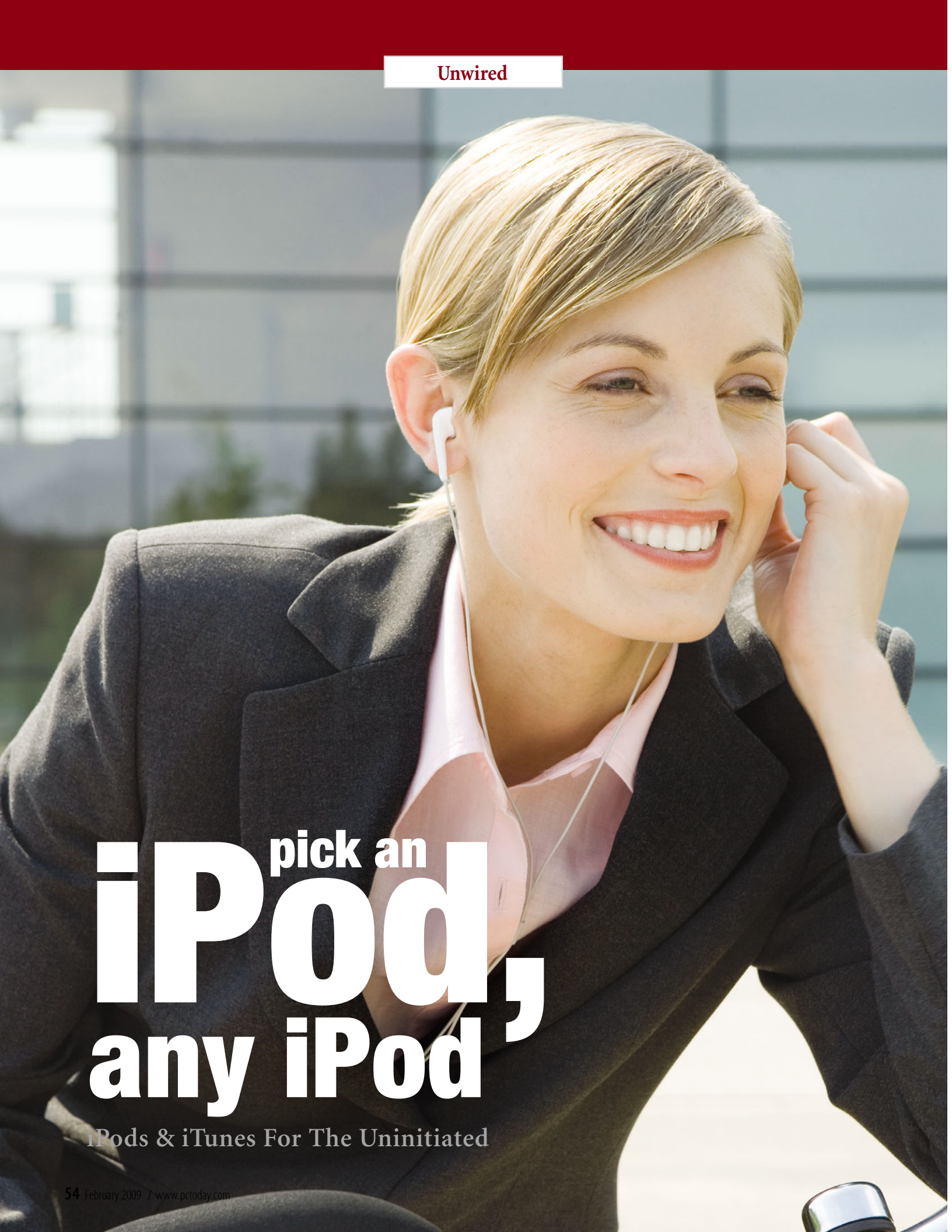
mobile.fandango.com

With any luck, your travels will afford you a little downtime. Fandango is great for just such a window of opportunity. Use Fandango's mobile site to search for movie theaters in your area and see what's playing and when. The site offers movie synopses, run times, and ratings to help you choose a great movie. The site also features national critic reviews, contact information, and directions to the theater.

■ Stay Connected

Now that you have an idea of the many ways you can use your smartphone to connect to the world around you, we suspect that you have some browsing to fit in before your plane arrives.

by Kris Glaser



Unwired

pick an **iPod,** any iPod

iPods & iTunes For The Uninitiated

Maybe you're looking for an MP3 player to pass the time while you wait for your flight in the airport or as a way to tune out the chatter of the couple next to you on the plane. Whatever the reason, an Apple iPod can keep you busy by giving you an easy way to organize your favorite music, pictures, talk shows, videos, and audio books right at your fingertips.

■ The Basics

In order to use your iPod, you'll need a few extras that are probably already in your home or office. You'll need a computer, preferably with an Internet connection so that you can download iTunes and browse the iTunes store. Conveniently, the iPod is compatible with both Macs and PCs, so you won't have to make any major computer changes simply to use your iPod.

The iPod connects directly to your computer via a special included cable. One end of the cable has a USB 2.0 connector that plugs into the USB port on your computer, and the other end plugs into your iPod. There are two purposes for connecting your iPod to your computer—to add media and to charge your iPod's battery.

■ Choices, Choices

All iPods share common qualities, but some have special features that are limited only to that specific model. For example, the iPod shuffle is the only member of the iPod family that has a built-in clip that lets you attach the player to your shirt, belt, purse, or carry-on bag. The shuffle is intended for audio playback only, which means it doesn't have a screen, so you can't watch videos on it. On the other end of the cost-and-features spectrum is the iPod

touch, which has a 3.5-inch widescreen display that you touch to control the player's functions. It is the only player in the iPod family with Wi-Fi capabilities and external speakers. To choose the right iPod, start by determining how you will use your iPod and then explore the latest offerings at www.apple.com/itunes.

■ iTunes Know-How

iTunes is an all-in-one application that helps you manage, play, and purchase music, movies, podcasts, audio books, and more. You'll use iTunes to organize your CD collection and to transfer music to your iPod, and the iTunes store to find and buy new media.

Navigate iTunes. If you spend a little time noting the location of the main controls, the iTunes interface is easy to use. On the left of the iTunes window is a menu that lists all the main functions you will use. The Library section is what you will use to navigate to your media collection and contains several categories such as Music, Movies, and Podcasts. A podcast is an audio file (sometimes a video file) that is a lot like a traditional radio program. You can download podcasts from various Web sites, or subscribe to them through the iTunes Store's podcast directory. The Store section includes the iTunes Store, which is where you can browse and buy additional media to put on your iPod. Devices shows the items that iTunes recognizes as containing media files, such as a CD inserted into the disc drive, or your iPod. You can click individual devices to see what files they contain.

The last heading on the menu is Playlists, which are custom-made collections of music that you might assemble for a specific event, such as an exercise routine or dinner party. There are several premade playlists available

when you start iTunes, but you can add your own playlists by going to the File menu and choosing New Playlist.

Import music. You can begin using iTunes right away, but you'll need to add media. The easiest way to start building your iTunes library is to import your existing CD collection. Simply place an audio CD into your computer's disc drive, and iTunes will ask you if you want to import the CD's contents to your iTunes library. Click Yes; a progress bar tracks the progress. If you click the Music subcategory under the Library section of the menu, you will see thumbnails of all the albums you have available in your iTunes library. You can change how you view your collection by choosing from the icons to the left of the main control box. You can also browse your music collection by album, artist, genre, or composer.

Set up your iTunes account. In order to purchase music from the iTunes store, you'll first need to set up an account. If iTunes didn't already prompt you to do so, go to Store on the main menu and click Create Account. On the first page, click Continue, agree to the Terms of Service, and click Continue again. Fill in the required fields with your email address, password preference, and secret question. Click Continue. On the next page, you will be asked to enter your credit card information. This is required so that when you wish to make a purchase from the iTunes store, you can do so using 1-Click, which automatically purchases the media and downloads it to your iTunes library. If you would prefer to buy media by first placing it in a shopping cart, you can change the store settings by going to Edit, Preferences, and clicking the Store tab. Choose the "Buy using a Shopping Cart" option. If you are satisfied with using 1-Click purchasing, continue to fill out the required fields and click Continue. Complete any other questions and complete the account creation.

Add media to your iPod. Transferring music, videos, or podcasts to your iPod is easy when you use iTunes. Simply select the tracks or albums you want to put on your iPod, and drag them to the iPod icon under the Devices section of the menu. The main control box will show you which files are being transferred, and your iPod will show a "Syncing" image on its screen (or a flashing light if you don't have a screen). To avoid any complications, do not disconnect your iPod while files are being transferred.

by Kris Glaser

The latest iPods available are (from left to right) the iPod touch, classic, nano, and shuffle.



Image courtesy of Apple



new & updated mobile software

Get More Done With Your Mobile Device

Looking to improve the functionality of your mobile phone? We've compiled the most recently released applications and program updates for smartphones to help business travelers maximize the potential of their mobile devices.

■ New Titles For Windows Mobile

Since its introduction in 2002, **Spb Keyboard** (\$14.95; www.spbsoftwarehouse.com), formerly known as Full Screen Keyboard, from Spb Software House has been one of the top on-screen keyboard applications for Windows Mobile phones. Spb Keyboard 4.0 offers three modes (Full Screen, Half Screen, and Standard) of on-screen text input. Version 4.0 requires less mobile phone memory, and with support for smart gestures and sliding pop-ups, the application offers improved typing accuracy.

Spb Software House also released **Spb Wireless Monitor 3.0** (\$19.95), an application for Windows Mobile phones that can help control your wireless data spending by monitoring your data connections to match configurable tariffs and data plans. The 3.0 update helps users prevent unwanted mobile service charges by measuring data traffic, calculating network charges, and warning you of costly data usage. In addition, Spb Wireless Monitor 3.0 provides detailed per-application or time-based reports that you can export as CSV files.

If you want to save time and quickly identify potential slots for meetings, **Agendus For Windows Mobile 3.0** (\$19.95; www.iambic.com) from Iambic is up to the task. Version 3.0 uses many of the favorite features from Agendus For Palm that were not previously included in Agendus For Windows Mobile 2.0. For example, Agendus For Windows Mobile offers the ability to store templates for meetings, tasks, and calls to save time and eliminate data entry errors. A Free-Time Finder feature lets you quickly scan your calendar for open meeting times.

Task2Gather (\$4.99; www.task2gather.com) from Vito Technology is an online project and task-management application that saves your tasks to an online location. After you invite other participants to the project, Task2Gather lets everyone stay up-to-date on the latest project notifications and changes. A history of changes is listed for every task and project. You can assign deadlines, map progress (in hours), and sync items with tasks in Microsoft Outlook.

■ New Titles For iPhone

With the right software, you can turn your iPhone into a high-quality recording device. Griffin Technology's **iTalk** (Free; www.griffin-technology.com) offers one-touch recording controls and the ability to pause, resume, or append audio clips. iTalk lets you select among Good, Better, and Best sample rates; and the program saves these clips as AIFF files, which are playable in iTunes and other popular media players. With the iTalk Sync (Free) companion application, you can also transfer audio recordings from the iPhone to your PC. Visit the App Store on iTunes to download iTalk and the other programs we mention for the iPhone.

If you use Apple's MobileMe iDisk to store and share files online, you'll want to check out **MobileFiles** (free; www.quickoffice.com) from Quickoffice. MobileFiles lets you access, view, download, store, and manage the files you've stored on Apple MobileMe iDisk. The files you access are not transmitted to your iPhone; instead you open folders in MobileMe iDisk, so your personal data is secure.

Zenprise announced its **Zenprise MobileManager 4.1** (starts at \$35 per user for 1,000 users; www.zenprise.com), which supports the iPhone in the enterprise. MobileManager automatically troubleshoots issues your employees may have with their iPhones, and the application can identify the root cause of issues and provide instructions to help mobile workers resolve the problem. Version 4.1 also includes a self-help portal that lets mobile workers diagnose and resolve a problem without the assistance of IT staff.

■ New Titles For BlackBerry

The idea of recording your email messages by voice, instead of typing them out, is probably appealing if you're a busy traveler. **MyCaption For BlackBerry** (prices vary by plan; www.mycaption.com) from MyCaption lets

you compose messages from voice to text in two clicks. The MyCaption service utilizes a combination of technology and human transcribers, so you won't experience the same types of translation issues that may occur with speech-recognition software.

If you're looking to work with any Microsoft Office and PDF files on your BlackBerry, DataViz has you covered. With the release of **Documents To Go Premium Edition** (\$69.99; www.dataviz.com) and **PDF To Go** (free for customers who purchase the Premium edition), DataViz provides BlackBerry owners with the tools to open, edit, and create native Word, Excel, and PowerPoint files, as well as view PDF files. Documents To Go Premium includes DataViz's InTact Technology that maintains the original formatting of files that you have edited or sent using your BlackBerry.

■ New Titles For Symbian OS

My Meetings For Symbian (\$7.99; www.sparklesolutions.net) from Sparkle Solutions is an application that helps you track and organize your meetings, appointments, and calls. In the meeting notes, My Meetings For Symbian includes several categories including Description, Date And Time, Type, Venue, Discussion Details, Attendees, and other important details. You can also track note details by month, date, or type of detail.

Sparkle Solutions also introduced a program that lets you manage and track your personal and business expenses on Symbian and Java-enabled mobile phones. **Star Expense Manager For Symbian** (\$11.99) lets you track and view expense report details by date or month; total expenses display according to the daily or monthly view. Additionally, you can add categories as you see fit, so you have a complete, easy-to-follow record of your expenses.

■ New Titles For Multiple Platforms

With DataViz's **RoadSync 4.0** (\$29.99), you can view HTML email, display tasks, and use photos for your contacts. Version 4.0 also lets you view pop-up notifications for new emails and utilize keypad shortcuts for common email functions. The program improves existing support for email subfolders, enhances font zooming, and is designed to better handle Internet access points. It also provides wireless and direct push synchronization with Microsoft Exchange Server 2003 and 2007 on non-Microsoft devices.

Sometimes you just don't have time for an entire phone conversation, but you need to pass along a short, important detail to a contact. In the business world, a text message or email may not cut it. **Slydial** (free; slydial.com) lets you send a voice message directly to a contact's voicemail, so you can leave the message without getting drawn into a long conversation. Slydial is available for iPhone, BlackBerry, and Windows Mobile devices.

File this one under the innovative application category. The **RideCharge** app (free; www.ridecharge.com) lets you reserve cabs, sedans, limos, and shuttles directly from your mobile phone. After you book a ride, the program will confirm your reservation, indicate when the ride will arrive, and notify you when the transportation is approaching your location. No cash or credit cards on you to pay the fare? Don't fret. You can use your mobile phone to access a payment system that bills your credit card.

Ensuring accountability for tasks, meetings, and communications can be difficult; **FCmobilelife** (prices vary by edition; www.fcmobilelife.com) from FranklinCovey lets you create a collaborative environment online, where you can connect and coordinate with team members. You can organize tasks into categories, delegate assignments, and track each task within FCmobilelife.

Opera released **Opera Mini 4.2** (free; www.opera.com), a version of its Web browser designed for use on mobile phones. The update is more likely to play streaming video content on Sony Ericsson and Nokia mobile phones. In addition, Opera Mini 4.2 includes Opera Link, so you can sync your bookmarks, contacts, and notes that you store using the Opera Web browser for desktop PCs.

by Nathan Lake



Bring a PIM to your Windows Mobile phone with Agenda For Windows Mobile 3.0.



With iTalk, you can turn your iPhone into an audio recorder.

digital downtime

Notes On The Latest
In Digital Music & Video

Phiaton recently released several new headphones and earbuds, including the sound-isolating PS 200 with dual-balanced armature drivers.



Music, photos, videos, movies, TV shows, podcasts, FM radio, audio books, calendars, contacts, file browsers, touchscreens, Wi-Fi, Bluetooth, and on and on. Yeah, today's portable audio and video players give you pretty much the whole enchilada and a side of nachos to boot. For the latest software, hardware, accessories, services, content, and tips concerning portable audio and video players, belly up and dig in.

■ Cables, Car Transmitters & Chargers, Oh My!

Whether you're a grizzled veteran or a newcomer to business travel, you need quality hookups for your portable media devices. For iPod or iPhone owners, new releases from Griffin Technology and Ecosol Solar Technologies have you covered. Griffin's new

■ New Headphone Choices Bountiful

If there's one accessory there's never a shortage of new releases for it's headphones and earbuds. A long list of new releases include the overdue and anticipated In-Ear Headphones from Apple (\$79; www.apple.com), which pack a woofer and tweeter in each bud and three-button remote/mic controller in the line for navigating audio and video, controlling volume, and recording voice messages. Though Apple states the headphones, which nicely integrate a stainless steel mesh cap in each bud to ward off dust and debris, only support the 4G nano, 120GB classic, and 2G touch, various reports cite partial functionality with the iPhone, with only the in-line volume controller not supported. New offerings from Phiaton, well-regarded for its headphone styles and audio quality, include the PS 200 (\$249; www.phiaton.com), which packs dual-balanced armature drivers in each sound-isolating earbud.

For those who favor Sony accessories, the company has not one but three new headphone models available, including the water-resistant Bluetooth Wireless Headset DR-BT160AS (\$129.99; www.sonymstyle.com), a behind-the-neck model with A2DP support, built-in microphone for taking calls, and rechargeable Li-Ion battery (seven hours talk or music). Sony also has the MDR-NC7 (\$49.99), a noise-canceling model that updates the previous MDR-NC6. Sony claims the MDR-NC7, available in black or white, cuts about 87.4% of ambient noise. Also nice for travelers is the model's foldable, swivel, flat-earcup design, which puts the battery storage in the headphone's housing vs. headset. The MDR-EX36V EX Style Earbuds (\$29.99), meanwhile, come in metallic pink, blue, silver, or red and integrate an in-line volume controller. On the portable speaker front, Sony is now selling the SR-M50 (\$49.99) in white, black, or pink. The 5W, magnetically shielded speakers power on AAA batteries or power adapter and clip together during travel.

■ Ready To Step Off The Beaten Path?

Unless you've been living in a cubicle the past five years, you know AV accessories come in all forms for all purposes. Aluratek's USB Internet Radio Jukebox (\$39.99; www.aluratek.com), for example, puts 13,000-plus Internet radio stations from more than 150 countries in a USB flash drive you can take anywhere. Connect the Jukebox to an Internet-enabled Windows 2000/XP/Vista notebook and the device automatically launches a window presenting stations in 52 genres, including several Top 10 lists. You have to live with ads for Aluratek's other products at the window's bottom, but you can save favorites, use an interactive world map to find stations, and rate songs by Hit or Miss.

iLuv's iNT170 (\$199.99; www.i-luv.com), meanwhile, ups the Internet radio ante for office settings by putting 15,000 stations and podcasts in a two-speaker, 15W system with dual alarm clocks, jAura Soundcell sound-enhancement technology, 40 presets, FM radio, and an LCD. Further, an auxiliary line-in input lets you connect other devices, a headphone jack lets you listen in solitude, and a remote control lets you control everything wirelessly. Elsewhere, Burton Technologies' Acoustibuds (\$12.99; www.acoustibuds.com) should suit road warrior exercisers who have trouble keeping earbuds in place. Using flexible, spaced, finned ridges, Burton states the Acoustibuds' twin-cone design also channels audio into the ear

canal while minimizing unwanted sound impedance. That means better sound isolation and improved bass quality at lower volume levels. Conveniently, the elastic Acoustibuds look as if they'll slip over any earbuds from any maker.

Finally, if you don't mind the inevitable stares from inquisitive fellow travelers, Vuzix claims its new 4-ounce AV310 (\$249.95; www.vuzix.com) is the "first-ever widescreen portable video eyewear" that projects a true 16:9 aspect ratio. Resembling night-vision goggles (only smaller) and compatible with all iPod/iPhone models, MP3 players, video-capable mobile phones, PDAs, portable DVD players, and PMPs

Vuzix's AV310 (AV230 shown) projects a 52-inch widescreen display from a connected device in 2D or 3D.



(portable media players), the AV310 projects a virtual 52-inch widescreen display as viewed from 9 feet away via two 428 x 240 LCD screens to watch movies and more in 2D or 3D. One AA (five continuous hours) or lithium (11 hours) battery supplies power to the AV310, which integrates removable earphones, adjustable nosepiece, and AccuTilt viewer for a 15-degree adjustable viewing angle.

RoadTrip With SmartScan (\$99.99; www.griffintechnology.com), works with 3G iPhones and touch (2G), nano (2G/3G/4G), and classic (80/160GB) iPods. Plug the RoadTrip into a vehicle's cigarette lighter or 12-volt socket, and it automatically searches for the three clearest frequencies across an 88.1 to 107.9MHz band to beam audio from a docked player over the car's stereo while simultaneously charging the player. Shipping with interchangeable iPhone and iPod cradles, the RoadTrip sets the three frequencies as presets, selecting the best one for use. Further, integrated RDS (Radio Data System) displays song info on radio displays that support the technology.

Griffin's Component Video Cable and Composite Video Cable (both \$49.99), meanwhile, provide 6 feet worth of cable to connect an iPod to a TV, computer, or home-theater system to watch or listen to content. Both cables have shielded copper cores and color-coded Composite or Component cables on one end and iPod connector on the other. Additionally, a PowerBlock AC adapter charges the iPod via a power outlet. Elsewhere, Ecosol Solar Technologies' Powerstick V2 (\$59.99;

www.powerstick.com) resembles a standard USB flash drive but is actually a portable charger with 1,000-plus cycle lifespan for 3G iPhones, iPods, cell and smartphones, PDAs, digital cameras, Bluetooth headsets, and other portables with a USB port. Ecosol states the

With Griffin Technology's Component and Composite Video Cables, you can connect an iPod to a TV, computer, and other sources to watch and listen to content.



Powerstick amasses up to a 90% charge in about 90 minutes via a notebook, desktop, or other source. Ecosol ships the Powerstick with nine connectors and offers a corporate branding option.

■ New Updates Bring Games, Mobile DVR Control & Spinning

Although the recent 3.1 firmware update for all Zune (www.zune.net) models doesn't add revolutionary features, it does add three

free games, including Sudoku, Space Battle, and Checkers. Better, you and your fellow Zune-owning buddies can play Texas Hold 'Em wirelessly via the firmware's new multiplayer mode and Zune's integrated Wi-Fi. TiVo, meanwhile, has released a beta TiVo mobile Web site (m.tivo.com) in conjunction with mobile app developer Mobui that lets TiVo subscribers with Series2 or Series3 boxes schedule recordings directly to the boxes via a Web-enabled mobile phone. Subscribers and nonsubscribers can search for programs.

Lastly, with the holidays come and gone and a few pounds probably gained, iSpinning, a free app for iPhone owners active in the indoor group cycling spinning craze, can help shed the pounds. Downloadable at Apple's App Store, iSpinning is a "computer and cardio fitness system" that works with leading heart-rate transmitters, fitness sensors, and road and mountain bikes to track heart-related data. If designing workouts and customizing dashboards on the iPhone to track your real-time current, average, and maximum heart rate; calories burned; cadence; speed; distance; and power sounds promising, pedal over to www.smheartlink.com for more.

by Blaine Flamig

CONSTRUCTION Zone

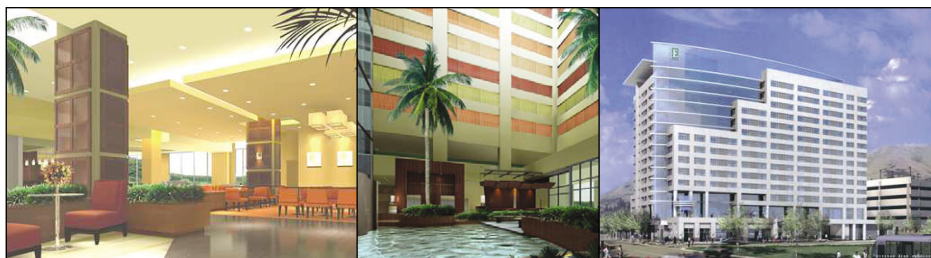
Compiled by Blaine Flamig

The Latest Hotel & Airport News

Hotel Construction News

EMBASSY SUITES Opens First Hotel In Glendale

■ Embassy Suites, a Hilton Hotels-owned brand, opened its first hotel in Glendale, Calif., in late November 2008, marking the sixth Embassy property in the greater Los Angeles area and 196th Embassy hotel overall. The all-suite Glendale hotel, which Kam Sang Company owns and operates, holds 272 suites, 10,000 square feet of meeting space, and a 12-story atrium with a waterfall and 7,000-gallon pond that's home to koi fish and turtles. An eight-mile drive from Burbank's Bob Hope Airport and nearby NBC Studio Tours, Disney Studios, Warner Brothers Studios, Dodger Stadium, and Hollywood, the hotel's rooms include in-suite wired and wireless Internet access, flat-screen LCD TVs, and private bedrooms. Other features include an outdoor pool, fitness center, Starbucks Barista, Bistro 800 restaurant, 24-hour valet service, and helipad for use upon approval.



Although the new Embassy Suites hotel in Glendale, Calif., is the city's first, it represents the hotel chain's 196th property overall.

DENVER SHERATON DOWNTOWN Begins \$70 Million Renovation

■ Colorado's largest hotel, the 27-story Sheraton Denver Downtown Hotel residing along Denver's 16th St. Pedestrian Mall, has begun a \$70 million renovation project that's expected to run through mid-2009. Formerly an Adam's Mark Hotel, the Sheraton Denver will reportedly close portions of the hotel, including meeting and plaza space, through spring 2009 during renovation. Plans call for new health and fitness features and a redesigned Link@Sheraton lobby with free Wi-Fi Internet portal offering email, video postcards (via Web cams), boarding pass printing, and local-attraction search abilities. The renovation is part of a reported \$238 million effort involving four former Adam's Mark properties in five U.S. cities. Sheraton, meanwhile, is in the midst of its own multibillion dollar renovation, branding, and construction project to upgrade 50,000 rooms and 100 lobbies in 100 U.S. Sheraton hotels. As part of the Sheraton Denver renovation, the hotel donated more than 2,000 blankets and pillows to local charities. The hotel has 46 meeting rooms in 133,000 square feet and is located near the recently revamped Colorado Convention Center, Denver Art Museum, Pepsi Center, and Coors Field.

MIAMI FONTAINEBLEAU Hotel Opens In Grandeur

■ "Once playground to Elvis, Sinatra, and the Rat Pack," the fabled Miami Fontainebleau Hotel reopened in November 2008 following a \$1 billion face-lift with a reported \$5 million ceremony attended by Kate Hudson, Gwyneth Paltrow, Sean Combs, Heidi Klum, and other celebs. Sprawling 22 acres, the hotel now holds 1,504 guest rooms, including several 4,000-square-foot suites. Nearly half the rooms reside in one of the hotel's original two buildings; another 658 sit in two new all-suite towers. Room choices also include three-bedroom suites, penthouses, and triple-connected rooms overlooking the Atlantic and Miami's skyline. In a move to make the hotel paperless, meanwhile, each room contains a 20-inch iMac, as well as flat-screen HDTV, walk-in showers, and separate jet tubs. Professionals have 107,000 square feet of meeting space for use, while recreational choices include a two-story European spa; six pools; and private cabanas outfitted with a 32-inch flat-screen TV, butler service, wireless Internet access, digital safe, and more. A Las Vegas-based Fontainebleau is set to open this year, while other Fontainebleau properties in Dubai and a still-unnamed location are also planned.

Airport Construction News

CONTROVERSY DOGS NEW Seattle-Tacoma International Runway

■ Seattle-Tacoma International Airport officials are facing similar complaints as O'Hare officials following a new \$1 billion runway that opened in late November. The *Seattle Times* reports that since opening, the runway has handled 41% of arriving flights, despite earlier Port of Seattle studies that "assumed the runway would handle 27.7% of arrivals in 2010." The *Times* quoted Bob Sheckler, mayor of nearby Des Moines, Wash., and Airport Communities Coalition chairman, as saying, "This is contrary to everything that they've told us in the past. It was very simple: that it would only be used in times of inclement weather." Elsewhere, the good vibes surrounding the runway's opening took another hit when Tay Yoshitani, Port of Seattle CEO, recently suspended four Port officials, reprimanded three others, and accepted resignations from two upper-level managers following a 57-page report and \$1.4 million, 10-month investigation into fraud. The resignations included those of John Rothnie, the new runway's manager, and Larry McFadden, Port of Seattle construction service general manager. Investigators reportedly found 10 instances of fraudulent activity, including contracts that were steered toward preferred bidders. The runway's construction has also been heavily criticized for its final cost, reportedly five times more than what was originally estimated.



Unfortunately, some news stemming from the recent opening of a new \$1 billion runway at Seattle-Tacoma International Airport hasn't been positive.

WORLD'S FIRST GREEN HANGAR Opens In Burbank

■ Burbank, Calif.-located Bob Hope Airport is home to a new solar-powered hangar that reportedly generates enough electricity to power the hangar's lights, recharge towing vehicles and forklifts, and power a grounded Boeing 747 undergoing maintenance. The \$17 million Hangar 25, a 60,000-square-foot edifice that opened in mid-December 2008, is believed to be the world's first solar-powered airport hangar. The LEED Platinum-certified hangar, a combined effort from Shangri-La Construction, Burbank-Glendale-Pasadena Airport Authority, and Avjet Corporation, uses rooftop photovoltaic panels to gather and generate power. Other environmentally friendly features include drought-resistant landscaping designs, nontoxic construction materials, low-water plumbing, and an abundant use of glass. Elsewhere, Shangri-La is also reportedly negotiating with Maguire Aviation to build a similar hangar at Van Nuys Airport in California, as well as other sustainable environmental buildings.

O'HARE INTERNATIONAL RUNWAY Opens Amid Controversy

■ Some news stemming from a new \$450 million runway at Chicago O'Hare International Airport isn't rosy. Opened in November 2008 with a United Airlines flight carrying Chicago Mayor Richard Daley and United Airlines CEO Glen Tilton, the runway is part of a \$15 billion expansion planned at O'Hare that's to add another new runway and terminal. Officials have encountered funding hurdles, however, and some locals have reportedly registered scores of complaints concerning noise and that they were led to believe runway traffic would be far less than

has been the case. Third Ward Park Ridge alderman Don Bach has stated, "It is obvious at this point that the FAA and air traffic controllers intended to use this runway a great deal more than they indicated to us prior to its commissioning." Figures put the runway at handling about 325 daily flights. "We were told that the runway was intended for use by small regional aircraft," Bach stated. "What we were not told is that the FAA . . . and Chicago apparently consider the Boeing 727, the Airbus A320, and the MD-80 to be small, regional aircraft."

Raleigh-Durham International Airport

Instant Guide To RDU

AIRLINE CLUB LOCATIONS & HOURS

American Airlines Admirals Club

www.aa.com/admiralsclub

- Terminal 2, upper level, across from gate C1
Opens at 5 a.m. daily; closes at 8 p.m. Sunday through Friday and at 7 p.m. Saturday

Delta Air Lines Crown Room Club

www.delta.com/crownroom

- Terminal 2, upper level, across from gate C1
Opening Spring 2009

US Airways Club

www.usairways.com/awa/content/traveltools/club

- Terminal 1, across from gate A21
Opens at 5:30 a.m. daily; closes at 7:30 p.m. Sunday through Friday and at 5 p.m. Saturday

RDU By The Numbers

22

When Piedmont Airlines began service at RDU (official code for Raleigh-Durham International Airport) in 1948, there were 22 flights daily.

According to Airports Council International, RDU was the 38th busiest U.S. airport in 2007 in terms of passenger movements, which totaled 10,219,138 that year.

38

When RDU's Terminal 2 construction is completed in 2011, the Federal Inspection Services facility will be able to handle 400 passengers per hour.

400

406

With 10 major airlines and 17 regional airlines operating there, RDU handles 406 arrivals and departures every day.

1982

The main RDU concourse, still in existence, originally opened in 1982.

The first half of the new Terminal 2 occupies 550,000 square feet of space and includes 19 gates and 26 restaurants and shops.

550,000

Make A Wi-Fi Connection

AT&T is RDU's Wi-Fi provider, so if you're an AT&T subscriber, you can simply switch on the Wi-Fi radio in your notebook or smartphone, open your browser, and log in. If you're not a subscriber you can purchase a temporary pass for as little as \$3.99 or sign up for lengthier service; see www.att.com/attwifi for details.

New Terminal, New Clubs

The first phase of the \$570 million Terminal 2 construction project ended with a grand opening in October 2008. Along with the new terminal came a new airline club; the RDU American Airlines Admirals Club is now located on the second level after security in Terminal 2. A Delta Air Lines Crown Room Club is scheduled to open nearby this spring. The second and final phase of the Terminal 2 project will end in the winter of 2011.

Need to find airport info fast? Visit www.pctoday.com and click the Airports link on the left under Services.

Compiled by Calvin Clinchard

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and click the Business Travel 911 link on the left for a complete menu of helpful articles.

Business Travel 911 articles, including online versions of those printed on the following pages, are updated regularly. For articles that help you when you can't access the Internet, we suggest you print and take them with you when traveling. If you're a subscriber and you logged in on the home page, you can use the Print This link at the top of any article for a printer-friendly version.

*Only paid subscribers to *PC Today*, *Smart Computing*, or *Computer Power User* receive full access to all of the content available on *PC Today's* Web site.

GET MORE ANSWERS

PCToday.com also offers numerous resources designed to make life easier for business travelers. Scroll down a little on the home page to find our **Wi-Fi Hotspot Locator**, powered by JiWire. Or check out the **Search For Flights, Hotels & Rental Cars** box to start making your travel plans. And the **Services** menu on the left side of the home page offers links to Web sites and phone numbers for airlines, airports, hotel chains, and more.

The screenshot shows the PC Today website interface. On the left, a navigation menu lists various sections, with 'Business Travel 911' highlighted and circled in red. The main content area displays the 'Business Travel 911' page, which lists numerous articles categorized by topic. Each article is preceded by a 'FREE' tag.

Business Travel 911

- Emergencies**
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 - FREE Lost Credit Card
 - FREE Lost Wallet Or Purse
- Equipment Problems**
 - FREE Cope With A Failed Navigation System
 - FREE Crank It Up
 - FREE Dead Batteries
 - FREE Deal With A Crashed PDA
 - FREE Modem Problems
 - FREE Notebook-Projector Setup Problems
 - FREE Projector Problems
- Health**
 - FREE Jet Lag & Other Sleep Difficulties
 - FREE Motion Sickness
 - FREE Travel & Your Health
- Remote Connections**
 - FREE Citrix GoToMyPC Problems
 - FREE No Hotspots? Time To Dial Up
 - FREE Solve Network Connection Problems
 - FREE Solve Wireless Internet Connection Problems
 - FREE Symantec pcAnywhere 11.5 Troubleshooting
 - FREE Use Your Cell Phone As A Modem
 - FREE Use Your Nokia Phone As A Modem
- Software Problems**
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 - FREE Lost Passport
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If you don't find the help you need in the Business Travel 911 department in this issue or on PCToday.com, visit our online Tech Support Center at www.pctoday.com/techsupport.

Search Or Browse

You can look for answers first by entering a search term in the search box toward the top of the page and clicking the Search button. You can also browse the list of Top Subjects to find answers to common problems, or click the link under Solutions Knowledgebase to browse a list of common problems and frequently asked questions.

Fight Error Messages & Bugs

Click the appropriate link under Error Messages to find out what a particular message means. Or scroll down to Security & Privacy to learn how to tackle malicious software (such as viruses and worms), spyware, and spam.

Learn More

At the Tech Support Center you'll also find links to troubleshooting articles on a variety of topics. Browse the headings on the main page to find a wealth of additional information, such as advice on setting up a wireless network and installing just about anything.

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Solve Wireless

INTERNET CONNECTION PROBLEMS

When you're on the road, wireless hotspots and services may seem like the proverbial good news/bad news. There's often no shortage of available hotspots, but they may dictate what, when, and how you can connect. Sometimes you can't connect at all even though you can "see" multiple available possibilities. A little foreknowledge can give you the upper hand in any future confrontations.

by Tom Nelson and Mary O'Connor

CONTROL AUTOMATIC CONNECTIONS

Whenever you connect to a new wireless network, Windows XP adds it to a list of preferred connections. Over time, this list can get cluttered with entries, at least some of which are in the same geographic location. You can easily end up connecting to the Beantown Wireless Network when you thought you were connecting to the Quincy Market Hotspot.

WinXP creates the list, but you can control the order of preference. You can also determine whether your computer should make an automatic connection. Click the Wireless Network Connection icon in the System Tray. In the Wireless Connection Status window, click

Properties. Next, you want to select the Wireless Networks tab. The order of the entries in the Preferred Networks list controls the order of preference when multiple networks are available. Click a network to select it and then use the Move Up or Move Down buttons to change its position.

Occasionally, the circumstances may dictate that you don't use a preferred connection. To prevent WinXP from automatically connecting to a preferred network, click the network to select it and then click Properties. Select the Connection tab. Remove the check mark next to Connect When This Network Is In Range and click OK.

KEEP DRIVERS UP-TO-DATE

Drivers are small pieces of software code that allow an operating system to access wireless adapters and other hardware. Unlike many other types of drivers, those used for wireless technology constantly undergo changes and improvements.

A driver that worked flawlessly last month may not be able to connect to a new (or an

improved) wireless access point today. Before hitting the road, check the Web site of the manufacturer of your wireless adapter or your laptop for driver updates.

Keep a copy of the old drivers on your laptop or on a CD. You never know when an older version of a wireless driver may prove more stable and usable than a newer one.

REVIVE YOUR ADAPTER

If you see a big, fat, red X on the Wireless Network Connection icon in your System Tray, then your wireless adapter has been disabled. This can happen for a number of reasons: Some of the more common are laptop power management features, which disable network adapters for longer battery run-times; manually turned off adapters; and loose or disconnected adapters. Re-enable or reset the adapter as applicable and click the Wireless Network Connection icon in the System Tray. In the Network Connection window, right-click the icon for the target connection and select Enable from the pop-up menu. After a short time, usually less than a minute, the wireless connection should be restored.

PICK A WIRELESS NETWORK

In crowded urban areas, it is common to find multiple available wireless networks that are in the same location. To make a selection, right-click the Wireless Network Connection icon in the System Tray and select View Available Wireless Networks from the pop-up menu. Each network is listed according to its SSID (Service Set Identifier). The listing also includes pertinent information such as signal strength and security status.

Unsecured networks require no password or encryption key, but security-enabled networks require additional information before you can connect. (If a security-enabled network is in your preferred list, WinXP may automatically supply any necessary information.) Now, you can select the network you want and click Connect.

WIRELESS CONNECTION TYPES

It's an alphabet soup of wireless connection protocols out there: 802.11a, or b, or g, or n, or even Pre-N. The two you are most likely to encounter are 802.11b and 802.11g. Both use the 2.4GHz frequency to establish wireless connections at up to 11Mbps and 54Mbps, respectively.

Most hotspots that use 802.11g can also work with the older 802.11b. The 802.11a protocol uses 5.8GHz and is not compatible with 802.11b/g networks. And 802.11n or Pre-N is a faster wireless protocol (270Mbps) that is interoperable with the older 802.11b/g. More important is that the newer 802.11n and Pre-N can also cover a wider area, creating very stable and reliable connections.

In most cases, the speed of a wireless connection will outstrip the ability of a hotspot to transfer data to the Internet. Even if you have a fast 54Mbps connection, chances are data is being sent or received over a much slower connection to the Internet backbone. Because of this, connection quality on the road is more important than connection speed.

MAKE A BETTER CONNECTION

Using a built-in wireless adapter is not necessarily the ideal connection method. An internal adapter may have a poor antenna, which can then shorten the effective range of a wireless network. An internal adapter can also lock you in to older wireless networking technologies.

Consider using an external wireless adapter, either a plug-in card or a USB adapter. The advantages include keeping up with the latest technology, which in wireless usually means faster and more stable connections, as well as more control over the connection. For example, some external cards and USB adapters let you plug in high-gain directional antennas, which help lock in a decent signal in areas of marginal reception. These antennas can also significantly cut down interference from external sources, such as other wireless networks, wireless phones, and neon signs.

CHOOSE QUALITY OVER SPEED

Signal strength and wireless speed go hand in hand. It's usually true that the better the signal strength, the faster and more stable the connection will be. If your connection seems slow or you experience stalls and disconnects, make sure the signal strength is adequate.

Click the Wireless Network Connection icon in the System Tray. This opens the Status window, which displays your system's current connection speed and signal strength. If the signal strength seems low, try repositioning your computer or moving it to a different location.

Are you still having signal strength or speed problems? Click the View Wireless Networks button in the Status window. Look through the list of available networks for a stronger local network and ensure that you're connected to the strongest one available.

KNOW YOUR NAME SERVERS

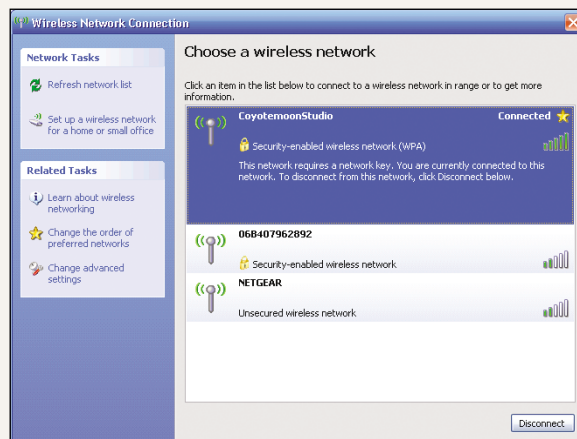
Name servers, commonly referred to as DNS (Domain Name Server), translate a Web site's URL, such as www.pctoday.com, into its actual IP address (for example, 12.39.144.5).

Local ISPs and company IT folks often want us to use specific name servers, so they provide us with DNS addresses. The problem with this approach is that when you're on the road, a company name server may not be accessible from a remote wireless network. In many cases, a wireless network will want you to use a specific, different name server. Make sure your network connection options are configured for automatic DNS and IP assignments.

Right-click the Wireless Network Connection icon in the System Tray, and then select Open Network Connections from the pop-up list. Right-click the Wireless

Network Connection icon and select Properties from the pop-up menu. Select the General tab, click the Internet Protocol (TCP/IP) entry, and click Properties. Make a note of any current entries in the General and Alternate Configuration tabs. Switch back to the General tab. Make sure the Obtain An IP Address Automatically and Obtain DNS Server Address Automatically items are selected and click OK.

Should you need to return to the previous settings, use the information you wrote down as a guide.



For more information about a network, including any security requirements, click its name.

Connect To An Encrypted WIRELESS NETWORK

Just because you're out of the office for the day, don't think that gets you out of being productive, Sonny Jim. With the huge (and still growing) number of wireless networks all over the country, chances are pretty good you and your trusty notebook will be able to find and maintain an Internet connection almost anywhere you go. Sure, you could just pop into a coffee shop that advertises "Free Wireless Internet," but connecting to a public network like that is easy.

Sometimes, you won't have the luxury of stumbling across an easily accessible public access point. Many times on the road, you'll

have to connect your notebook to a private (and that means encrypted) wireless network. Many companies and individuals choose to encrypt their networks in the interests of providing more data security, but sometimes, while you're on the road for work, these networks are your only option for connecting to the Internet and getting back in touch with the office.

While connecting to *anything* encrypted sounds a bit daunting at first, the steps are actually rather simple. Follow along, and you'll be back into Outlook before the first Out Of Office autoreply is sent out. The following steps are for Windows XP, but the process is nearly identical for all of the Windows operating systems.

by Shawn Kupfer

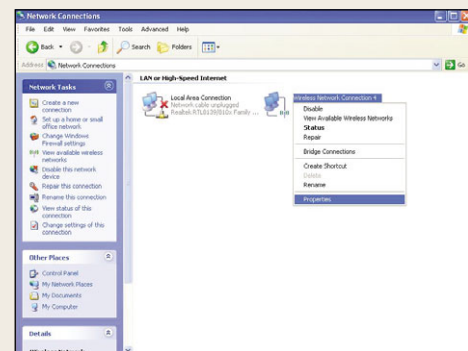
FINDING THE NETWORK

Assuming you're allowing Windows to manage your wireless connections, you'll see an icon in the bottom-right corner of the System Tray that looks like a computer with lines radiating out from it. (In the event that you're not using Windows to manage your wireless connections, you're probably using a piece of proprietary software from your wireless card's manufacturer. There is a lot of variation between these programs, so consult the documentation that came with your card for information on how to connect using this proprietary software.) If you're not connected, that little computer will either have an X over it or (in the case of a limited or faulty connection) a small yellow triangle with an exclamation point in the center. You'll want to keep an eye on this icon, as it will let you know when you're connected and can get to work.

With this window still open, double-click My Computer and then double-click

Control Panel. Double-click the icon for Network Connections and, when the new window pops up, right-click the icon for your wireless connection (usually named "Wireless Connection" or something similar). Click the Wireless Networks tab. If the checkbox for Use Windows To Configure My Wireless Network Settings is not checked, your network card is using proprietary software to manage your network settings. Check your card's documentation for tips on how to proceed in this case.

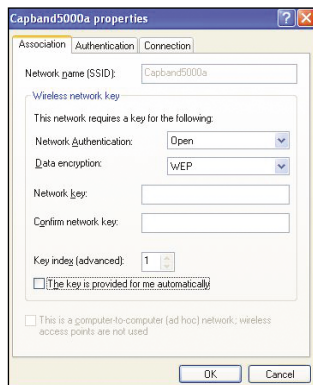
Assuming you are using Windows to manage your wireless connections, click the View Wireless Networks button in the top half of the window. A list of available wireless connections will pop up. If the encrypted network is the only one available, that's the one you'll see; you can recognize it by the word "Encrypted" next to the network's



The Network Connections window is your starting block for managing your wireless connections. If you're having problems after you've already connected, sometimes clicking the Repair option may fix your connection.

name. (Open or Automatic networks can also be encrypted, however, so don't worry if you don't see the word.)

WEP VS. WPA



If the network you're using uses WEP encryption, make sure your Association settings match those outlined above. If you're using WPA, select WPA in the Network Authentication drop-down menu and then select TKIP in the Data Encryption box.

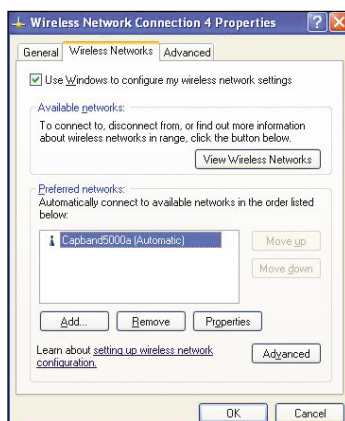
(And Domain If Any) checkbox. Click OK, click OK a second time in the Protected EAP Properties window, click OK a third time in the Wireless Network Properties window, and then click OK one more time in the Wireless Network Connection Properties window. This should bring you back to the Desktop, and a balloon will pop up at the bottom of your System Tray that will tell you to click it. Do so and then enter the username and password provided for you by the owner of the wireless network. Your little computer icon should now be radiating green lines, meaning you're connected to the network.

For WPA authentication, select WPA in the Network Authentication box of the Association tab and then TKIP in the Data Encryption box. Follow the same steps as above for the Protected EAP Properties and the EAP MSCHAPv2 Properties windows and then click OK until you're back at the Desktop. The balloon prompt and logon for the network should pop up. Enter the username and password provided for you by the network's owner, and you should be connected within a few seconds.

Connecting to an encrypted network requires a few more steps than connecting to a public access point, but it's well worth the five minutes of extra effort if the encrypted network lets you be productive while you're out on the road.

Networks can be encrypted using either WEP (Wired Equivalency Privacy) or WPA (Wi-Fi Protected Access) encryption. You'll have to know which type of encryption the network to which you're trying to connect uses. Once you've determined that (presumably from whoever owns or runs the network), execute one of the two courses of action below.

For WEP, either enter the key (this should have been provided for you by the person running the network) in both the Network Key and Confirm Network Key boxes. If the owner of the network so indicates, click the The Key Is Provided For Me Automatically checkbox. Next, click the Authentication tab. Click the Enable IEEE 802.1x Authentication For This Network checkbox and then select PEAP (Protected EAP) from the drop-down box. Click Properties below the drop-down box and then uncheck the Validate Server Certificate checkbox. Click the Configure button and then uncheck the Automatically Use My Windows Logon Name And Password



To connect to a network, you can either find it by clicking View Wireless Networks or, if you know the name of the network, by clicking Add and then typing the name of the connection you're trying to access.

NOW THAT YOU'VE GOT IT, DON'T LOSE IT

Most of the time, wireless connections are stable enough, but every once in a while, you may get a bad connection that keeps dropping out on you. In this case, there are a few steps you can take to ensure a more solid connection.

First, right-click the icon in your System Tray that informs you of your connection status (the computer with the lines radiating out from it, as discussed in the article). Click View Available Wireless Networks.

You'll also see a few bars representing the signal's strength; the more bars, the better, of course, but for most practical purposes, anything over two bars will probably work. If the network you're connected to has low signal strength and another network is listed with more bars, attempt to connect to the stronger signal by double-clicking that network. Often companies will run more than one wireless network, especially in a large building, so the network you initially connect to may not be the strongest signal offered.

Also, your proprietary software can sometimes be an impediment to maintaining a stable connection on an encrypted private wireless network. To get past this problem, you can (temporarily, of course) allow Windows to manage your wireless connections.

If you are using proprietary software, when you right-click the System Tray icon for your wireless connection and click View Available Wireless Networks, a message will pop up saying that Windows is not currently managing your wireless connections. Click the option on the left side of the screen that says Change Advanced Settings and then click the checkbox for "Use Windows To Configure My Wireless Network Settings." Next, follow the connection steps we mentioned previously, and you should get a stronger connection.

Travel & Your Health

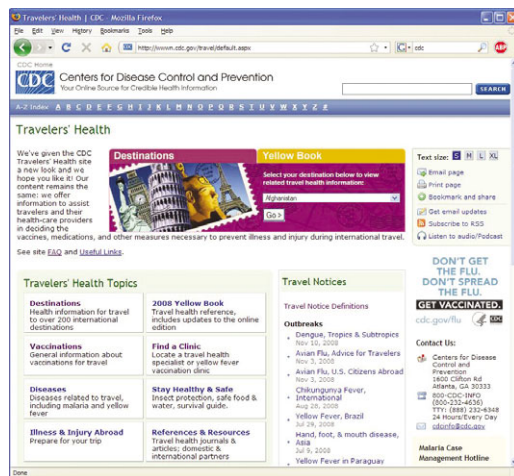
Prior to any trip, you probably spend more time packing and planning your itinerary than preparing for any health issues you may encounter. But getting sick or injured on the road can keep you sidelined for the big meeting or one-of-a-kind cultural experience. If not promptly and properly dealt with, some travel-related maladies could even put your long-term health at risk. Read on for tips to avoid hearing “take two and call me in the morning.” **by Andrew Leibman**

DESTINATION-BASED HEALTH WARNINGS

When you know your destination, take a few minutes to look up the CDC's Travelers' Health Destination page (www.cdc.gov/travel/destinationList.aspx). Here you can click the link for your destination country to find out about necessary vaccinations, travel notices, and local diseases. The site also offers tips for how to remain healthy during your stay. Now's also a good time to find out if your health insurance covers you abroad. If you find that your insurance coverage is lacking, there are numerous travel insurance policies available that cover such emergency costs as transportation to the United States from foreign countries for medical treatment. Visit the travel insurance comparison site www.insuremytrip.com and click the Quotes link on the left side of the page to enter your travel details and get insurance plan offers from dozens of providers.

It's also a good idea to visit the foreign embassy Web site for the country to which you're traveling; there you

can determine if there are any urgent notices, health concerns, or vaccine or health requirements you need to be aware of before entering the country. To find a foreign embassy Web site, visit www.state.gov/s/cpr/rls/dpl/32122.htm and click the appropriate letter. International travel information is also available at www.pctoday.com/services/InitTravel.aspx.



The CDC's Travel site provides vital information for anyone traveling.

HEALTH CHECKS & SHOTS FOR OVERSEAS TRAVEL

Four to six weeks before you travel abroad, make sure to get a health check from your physician or a doctor that specializes in travel health. Discuss any medications or vaccinations that you may require, how to manage any conditions you suffer from considering the climate of your destination, and obtain any paperwork you need to prove the medical necessity of controlled substances or injectable medicines you plan to bring along. When packing, make sure to stow your medicines and prescriptions (in their original containers with clear labels with generic names) in your carry-on luggage.

TRAVELER-SPECIFIC CONCERNS

The travel precautions for a pregnant mother are vastly different from those for a traveler and her international prize-winning schnauzer. Before you leave, make a mental inventory of your physical condition, travel companions, and traveling situation. The Center for Disease Control and Prevention's Travel site (www.cdc.gov/travel) features pages dedicated to Traveling With Children, Travelers With Special Needs, Traveling With Pets, Avian Flu & Travel, Students Abroad, and Disaster Relief Workers.

TRAVEL HEALTH KIT

It's always a good idea to travel with a few basic health care items, but the supplies to pack will vary depending on the destination, duration of the trip, and your specific health needs. Packing a traveler's health kit will let you relieve most unforeseen pains and minor discomforts you might encounter. To create your own kit, pack hand sanitizer, adhesive bandages, aspirin, ibuprofen, antacid, anti-diarrheal medicine, laxatives, antihistamine, decongestant, antiseptic, tweezers, scissors, a digital thermometer, and antibacterial ointment. Also take along activity-related or destination-specific items such as aloe for sunburn, insect repellent (nonaerosol), sunscreen (SPF 15 or better), water purification tablets, and mild sedatives. Prepackaged medical kits are also available from a number of online vendors, including Adventure Medical Kits (www.adventuremedicalkits.com).

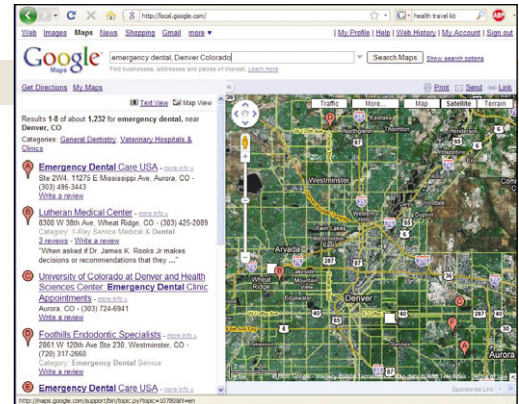
Information is a valuable component of any first aid kit. Data you'll want to include are the addresses and phone numbers of area hospitals. If you're traveling in the U.S., look up healthcare providers before you depart using



A first-aid kit can make a big difference for minor discomforts and maladies.

Google Local (local.google.com). Simply type the healthcare service or provider you're looking for followed by the destination, for instance **emergency dental, Denver, CO**, and then click Search Maps to get a map and contact information.

If you are traveling abroad, visit www.usembassy.gov and look up the Web site of the U.S. Embassy in your destination country to get a list of physicians and medical facilities. Make sure to bring along a first-aid quick reference card with important phone numbers and personal medical details. Also, consider joining the IAMAT (International Association for Medical



Google can help you find help fast.

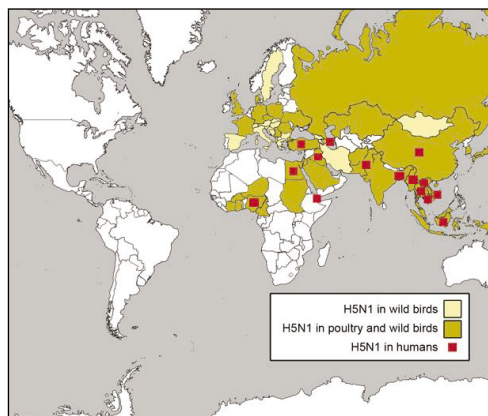
Assistance to Travelers; www.iamat.org) to get free access to information on the latest health risks, disease information, immunization requirements for all countries, and physicians who speak English.

AVOID THE COMMON COLD & FLU

Traveling is messy business, and you don't always have control of your exposure to pathogens, but you aren't completely powerless. The best way to avoid getting the flu is to get a flu shot prior to traveling. You can also reduce your chances of getting a cold or flu by frequently washing your hands and steering clear of anyone who exhibits symptoms, such as coughing or sneezing. The Food and Drug Administration and European Medicines Agency don't currently recognize any medications to treat or cure the cold or flu.

Some cold- and flu-fighting treatments that purport to ward off or reduce the severity of the illnesses include megadoses (more than the recommended dietary allowance) of vitamin C, echinacea, and zinc gluconate, so consider including them in your packing list if you think they'll make a difference.

In response to a cold or upper respiratory infection while traveling, some take an antihistamine several hours before a flight; a nasal spray that contains a vasoconstrictor 30 minutes before descent can also help equalize air pressure in the middle ear and prevent pain due to congestion. Remember, consume plenty of fluids and avoid alcoholic beverages before and during your flight.



This map shows cases of avian influenza worldwide.

STAY IN TIP-TOP SHAPE WHEN YOU TRAVEL

If you've ever heard the tongue-in-cheek advice "don't get sick," consider it a good rule to travel by. Believe it or not, you do have some control over your exposure to illness and injury, so be prepared, be aware of your surroundings, and know what to do if something unexpected happens while you're on the road.

Prevent Identity THEFT

Identity theft wreaks havoc on people's lives every day. In some of the worst cases, victims have been refused loans, lost their jobs, or been arrested for crimes they didn't commit. Innocent people of all ages are becoming victims of this horrible crime on a daily basis.

According to the FTC (Federal Trade Commission), "Identity theft occurs when someone possesses or uses your name, address, Social Security

number, bank or credit card account number, or other identifying information without your knowledge with the intent to commit fraud or other crimes."

Fortunately, there are things you can do that will make you a less attractive target.

by Jennifer Johnson

INACCURATE CREDIT REPORT

New accounts opened by a thief are likely to show up on your credit report. Review your credit report for accuracy at least once a year. You're entitled to a free credit report from each of the three major credit bureaus (Equifax, Experian, and TransUnion) once a year through AnnualCreditReport (www.annualcreditreport.com).

CREDIT SIGNS

Receiving credit cards that you didn't apply for, denial of credit, or less-favorable credit terms for no apparent reason can also signal identity theft. Check your credit reports to discover the extent of the theft.

WHEN IT'S TOO LATE . . .

If you become a victim of identity theft, take immediate steps to correct your records. Make sure to document telephone calls and follow up in writing using certified mail, return receipt requested. Never send original documents and always keep a copy of letters refuting charges.

SHRED OR DESTROY

It's wise to shred paperwork that contains personal information before throwing it away, especially preapproved credit card offers.

BEWARE OF PHISHING ATTACKS

Phishing scams occur when a con artist impersonates a bank, credit card, or ecommerce company and sends you an email asking you to give them your personal information. Although these emails may appear to be real, they aren't.

CLOSE ACCOUNTS

To minimize financial damage, close all accounts the thief has tampered with or fraudulently opened, including bank and credit card accounts. Place passwords on any new accounts you open, but don't use easily identifiable words or numbers.

A VALUABLE NUMBER

Make sure you protect your Social Security number whenever possible. Don't keep your Social Security card in your wallet and make sure your number does not appear on insurance cards or other information you carry.

MISSING BILLS

Keep track of when your bills should arrive; a missing bill can be a sign that a thief has changed the billing address to cover his tracks. Before paying a bill, examine it to make sure all charges are accurate and report unauthorized charges immediately.

STRANGE PHONE CALLS

If you receive calls from collection agencies regarding debt you did not incur, remain calm and find out more information about the charge. Document the call and check into the charges immediately. Don't give the caller your bank or credit card information to pay the bill because doing so could cause additional problems if the caller is not legit.

OPT OUT

To limit the disclosure of your personal information, contact your banks, mortgage brokers, and the three major credit bureaus to tell them you want to opt out of programs that share personal information. The Direct Marketing Association's Mail Preference Service lets you register to receive less commercial advertising mail.

TELL CREDIT AGENCIES

Contact one of the three major credit-reporting agencies mentioned previously to report fraud. The agency will place a fraud alert on your credit report and notify the other two agencies. This alert will tell creditors that they must contact you before authorizing any changes to your accounts or opening new accounts.

FILE A POLICE REPORT

Many organizations require proof that you are a victim of identity theft in the form of a police report. If you know where the fraudulent actions occurred, contact the authorities in that community; otherwise, contact your local authorities.

BE NOSY

If someone asks for your personal information, find out what it will be used for and why he needs the information. Be extra cautious when giving out information over the phone if you did not initiate the conversation. Don't be afraid to hang up the phone and call back at a phone number corresponding to your bill to verify the caller's legitimacy.

TELL THE FTC

Filing a report with the FTC helps with fraud investigation and can help with investigations across multiple jurisdictions. The information can help policy makers and businesses create better remedies and prevent identity theft. An ID Theft Affidavit from the FTC may also help in disputing charges.

USE YOUR MEMORY

Make sure that you commit any important passwords, PINs, and other important identification information to memory. This will prevent such valuable information from falling into the wrong hands.

IMPORTANT CONTACT INFORMATION

Becoming a victim of identity theft is traumatic. If you find yourself in this position, here are some Web sites and phone numbers that may help.

Get Credit Reports

AnnualCreditReport.com
www.annualcreditreport.com
(877) 322-8228
Free credit reports

Equifax
www.equifax.com
Order report: (800) 685-1111
Fraud alert: (888) 766-0008
Credit reporting agency

Experian
www.experian.com
(888) 397-3742
Credit reporting agency

TransUnion
www.transunion.com
Order report: (877) 322-8228
Fraud alert: (800) 680-7289
Credit reporting agency

Opt Out

**Direct Marketing Association
Consumer Assistance**
www.dmaconsumers.org
/offmailing.html
Indicate mail preferences.

OptOutPrescreen.com
www.optoutprescreen.com
(888) 567-8688
Opt out of preapproved credit or insurance offers.

Investigate

Certegy
www.certegy.com/ContactUs.html#USCONSUMER
(800) 770-3792
Determine if anyone is writing fraudulent checks on your account.

Consumer Debit Resource
www.consumerdebit.com
/consumerinfo/us/en
/consumerreports/index.htm
(800) 428-9623
Obtain a consumer report about checking accounts in your name.

Internal Revenue Service

www.irs.gov/compliance/enforcement/article/0,,id=106778,00.html
Criminal Investigation Informant
Hotline: (800) 829-0433
Find out if someone has filed a tax return in your name.

TeleCheck
www.telecheck.com
(800) 710-9898
On the Web site, click Consumer and Check Fraud/Forgery to find out if anyone has used your driver's license or ID to write fraudulent checks.

Report Other Problems

SCAN
(800) 262-7771
Call this hotline to find out if anyone has been writing bad checks in your name.

**Social Security Administration
Office of the Inspector General**
www.ssa.gov/oig/guidelin.htm
(800) 269-0271
Report fraudulent use of your Social Security card to obtain benefits.

U.S. Postal Inspection Service
www.usps.com/websites/depart/inspect/fraud/welcome.htm
To report stolen mail or a fraudulent address change, look in your local phone book for the nearest Postal Inspector or go to this Web site.

Report Credit Card Fraud

American Express
www.124.americanexpress.com
/cards/home
Card replacement: (800) 992-3404
Customer service: (336) 393-1111
On the Web site, click Customer Service to find links to initiate a report.

Bank of America
www.bankofamerica.com
(800) 848-6090

BankOne/Chase

www.bankone.com
Credit Card Services Fraud Operations: (800) 686-5657
On the Web site, click Protect Your Family From Identity Theft.

Citibank
www.citicorp.com/domain/contact
(800) 627-3999

Discover Card
www.discovercard.com/discover/data/faq/about_your_account.shtml#loststolen
(800) DISCOVER (347-2683)

MasterCard
www.mastercard.com/cgi-bin/emergserv.cgi
(800) MC-ASSIST (622-7747)
Report lost or stolen credit card:
(636) 722-7111

Visa
www.usa.visa.com/personal/security/need_help_now.html
(800) 847-2911
(410) 581-9994

Wachovia
www.wachovia.com/helpcenter/page/0,,5184_5274,00.html
(800) 477-9131

Wells Fargo Bank
www.wellsfargo.com/help/index.jhtml
(866) 867-5568

Additional Resources

Call For Action
www.callforaction.org

**Federal Trade Commission
ID Theft**
www.consumer.gov/idtheft
(877) IDTHEFT (438-4338)

Identity Theft Resource Center
www.idtheftcenter.org

Privacy Rights Clearinghouse
www.privacyrights.org

The Traveler's 911 DIRECTORY

Help When You Need It

by Jennifer Johnson

No matter how hard we try, we can't ensure that our travel plans will always go smoothly. Thankfully, when things go wrong, help may be just a phone call away. Here's a list of phone numbers and Web addresses for airlines, car rental agencies, travel services, and hotels to assist you when your travel plans go awry.

AIRLINES

American Airlines

www.aa.com; mobile.aa.com
Reservations (800) 433-7300
TDD (800) 543-1586
Flight information (800) 223-5436
Baggage delayed less than five days (800) 535-5225
Ticket refund requests (918) 254-3777

Continental Airlines

www.continental.com
pda.continental.com
Reservations to U.S. and Mexico destinations (800) 523-3273
Reservations to international destinations (800) 231-0856
TDD (800) 343-9195
Flight information (800) 784-4444
Baggage information (800) 335-2247
OnePass frequent flyer assistance (713) 952-1630

Delta Air Lines

www.delta.com
mobile.delta.com
Reservations (800) 221-1212
Flight information (800) 325-1999

Baggage information (800) 325-8224

SkyMiles members (800) 323-2323

Frontier Airlines

www.frontierairlines.com
Reservations (800) 432-1359
Customer relations (800) 265-5505

JetBlue Airways

www.jetblue.com
mobile.jetblue.com
(800) 538-2583

Midwest Airlines

www.midwestairlines.com
Reservations (800) 452-2022
TDD (800) 872-3608

Northwest Airlines

www.nwa.com
wireless.nwa.com
Reservations (800) 225-2525
TDD (800) 328-2298
Flight information (800) 441-1818
Baggage information (800) 745-9798
Refunds (612) 726-2422
Post-date travel issues (701) 420-6282

Southwest Airlines

www.southwest.com
mobile.southwest.com
(800) 435-9792
TDD (800) 533-1305

Spirit Airlines

www.spiritair.com
(800) 772-7117

US Airways

www.usairways.com
Reservations to U.S. & Canada destinations (800) 428-4322
Reservations to international destinations (800) 622-1015
TDD (800) 245-2966
Customer service (800) 943-5436

United Airlines

www.united.com
www.ua2go.com
Reservations (800) 864-8331
International reservations (800) 538-2929
TDD (800) 323-0170

VEHICLE RENTALS

ACE Rent A Car

www.acerentacar.com

Assistance with an online booking (317) 248-5686

Advantage Rent A Car

www.advantage.com
Reservations (866) 661-2722, or (210) 344-4712 outside the U.S.
Customer service (800) 777-5524

Alamo Rent A Car

www.alamo.com
(800) 462-5266
TDD (800) 522-9292

Avis

www.avis.com
mobile.avis.com
Reservations (800) 331-1212
TDD (800) 331-2323
Customer service (800) 352-7900

Budget Rent A Car System

www.budget.com
mobile.budget.com
Reservations in the U.S. (800) 527-0700
Reservations outside the U.S. (800) 472-3325
TDD (800) 826-5510
Roadside assistance (800) 354-2847
Customer service (800) 214-6094

Dollar Rent A Car

www.dollar.com

Reservations (800) 800-3665
Reservations outside the U.S.
(800) 800-6000
TDD (800) 232-3301
24-hour roadside assistance
(800) 235-9393

Enterprise Rent-A-Car
www.enterprise.com
Reservations (800) 261-7331
TDD (866) 534-9270

Hertz
www.hertz.com
hertz.mobi
Reservations (800) 654-3131
Reservations outside the U.S.
(800) 654-3001
TDD (800) 654-2280
Extending a current rental
(800) 654-4174
Billing information
(800) 654-4173
Customer relations
(888) 777-6095

Holiday Cars
www.holidaycars.com
(800) 408-5370

National Car Rental
www.nationalcar.com
(800) 227-7368
TDD (800) 328-6323

Payless Car Rental
www.paylesscarrental.com
(800) 729-5377

Thrifty Car Rental
www.thrifty.com
Reservations (800) 847-4389
Emergency (877) 283-0898

TRAVEL SERVICES

AAA
www.aaa.com
aaa.mobi
Roadside assistance
(800) 222-4357

Expedia
www.expedia.com
(800) 397-3342

Hotwire
www.hotwire.com
(866) 468-9473
OCS (Overseas Citizens
Services) traveler's hotline
(202) 647-5225 or (888) 407-4747
After-hours emergencies
(202) 647-4000

Orbitz
www.orbitz.com
mobile.orbitz.com
(888) 656-4546

Priceline
www.priceline.com
priceline.mobi
(800) 774-2354

Travelocity
www.travelocity.com
mobile.travelocity.com
(888) 872-8356

HOTELS

Candlewood Suites
www.candlewoodsuites.com
mobile.candlewoodsuites.com
(888) 226-3539

Chase Suite Hotels
www.woodfinsuitehotels.com
(800) 966-3346

Choice Hotels International
(Cambria Suites, Comfort Inn,
Comfort Suites, Quality, Sleep
Inn, Clarion, MainStay Suites,
Suburban Extended Stay Hotel,
Econo Lodge, and Rodeway
Inn)
www.choicehotels.com
(877) 424-6423

Courtyard Hotels
www.courtyard.com
courtyard.mobi
(888) 236-2427

Crowne Plaza Hotels & Resorts
www.crowneplaza.com
mobile.crowneplaza.com
(877) 227-6963

Doubletree Hotels
www.doubletree.com
doubletree.mobi
(800) 222-8733

Embassy Suites Hotels
www.embassysuites.com
embassysuites.mobi
(800) 362-2779

Four Seasons Hotels & Resorts
www.fourseasons.com
mobile.fourseasons.com
(800) 819-5053

Hampton Inn Hotels & Suites
www.hamptoninn.com
hamptoninn.mobi
(800) 426-7866

Hawthorn Suites
www.hawthorn.com
(800) 527-1133

Hilton Hotels
www.hilton.com
hilton.mobi
(800) 445-8667

Holiday Inn
www.holidayinn.com
mobile.holidayinn.com
(888) 465-4329

Holiday Inn Express
www.hiexpress.com
mobile.hiexpress.com
(888) 465-4329

Homewood Suites
www.homewoodsuites.com
homewoodsuites.mobi
(800) 225-5466

Hyatt Hotels & Resorts
www.hyatt.com
Hyatt Hotels & Resorts (888)
591-1234, TDD (800) 228-9548
Hyatt Place (888) 492-8847

Hyatt Summerfield Suites
(866) 974-9288

Marriott
www.marriott.com
marriott.mobi
(888) 236-2427

Radisson Hotels & Resorts
www.radisson.com
(888) 201-1718

Ramada Worldwide
www.ramada.com
(800) 272-6232

**Renaissance
Hotels & Resorts**
www.renaissancehotel.com
(888) 236-2427

Residence Inn
www.residenceinn.com
residenceinn.mobi
(888) 236-2427

Ritz-Carlton Hotels & Resorts
www.ritzcarlton.com
(800) 542-8680

Sheraton Hotels & Resorts
www.sheraton.com
(800) 325-3535

Staybridge Suites
www.staybridge.com
mobile.staybridge.com
(877) 238-8889

Westin Hotels & Resorts
www.westin.com
(800) 937-8461

Wingate Inns
www.wingateinns.com
(800) 228-1000

Wyndham Hotels & Resorts
www.wyndham.com
(877) 999-3223

Woodfin Suite Hotels
www.woodfinsuitehotels.com
(800) 966-3346

The Business End

AT&T Is On A Wireless Mission

During the past three years, AT&T has invested more than \$20 billion to expand and improve its wireless network. The company has completed the transition from Cingular Wireless, which became wholly owned by AT&T in December 2006 as a result of AT&T's acquisition of BellSouth. To fuel its growth and enhance its offerings of devices, such as the Apple iPhone 3G (third generation), the company moved aggressively to deploy 3G wireless service, and it has bid on and acquired additional radio frequency spectrum for its wireless network. AT&T's spectrum holdings position the company to enhance further the speed, quality, and reliability of its services. To learn more about AT&T's quest to own the wireless market, we spoke with Mark Siegel, spokesperson for AT&T Mobility.

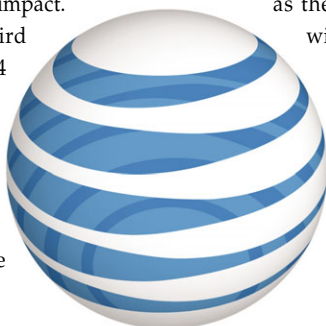
Q About how many wireless customers is AT&T serving, and how does that compare to a year ago?

A We have about 75 million wireless customers currently. At the end of 2007, our wireless customer numbers were at about 70 million. We have experienced significant growth in this area.

Q How much of an impact has AT&T's exclusive offering of the Apple iPhone and iPhone 3G had on the company's wireless business?

A It's had a tremendous impact.

For example, in the third quarter of 2008, we added 2.4 million iPhone 3G customers, and nearly 40% of them were new AT&T customers. And iPhone subscribers average 1.6 times the average revenue compared to our average



AT&T offers customers access to Wi-Fi hotspots in airports, hotels, Starbucks, McDonald's, and other locations across the U.S.

customer. This is mainly due to the need for a data plan with the iPhone. The growth has been phenomenal—there are more than 10,000 applications available from Apple's iPhone App Store, with 300 million downloads. The iPhone has been a great offering for AT&T.

Q In 2008, AT&T expanded its 3G network to 350 locations. What are AT&T's mobile network goals over the next two to five years?

A We are planning to continue to increase the number of 3G locations, as well as the speed of the network. Our wireless network technology is based on GSM [Global System for Mobile Communications] technology, which is used by more than 1 billion people worldwide. We currently offer 2G and 3G service levels over our GSM network.

For 3G wireless access, we are using HSPA [High-Speed Packet Access] technology, which includes both HSDPA [downlink] and HSUPA [uplink]. 3G speeds for supported devices deliver typical download speeds of 700Kbps to 1.7Mbps and typical upload speeds of 500Kbps to 1.2Mbps. These are comparable to "wireline" broadband Internet speeds.

When customers are out of a 3G coverage area, AT&T offers the largest national high-speed wireless data network with EDGE [Enhanced Data Rate for GSM Evolution] technology, available in 13,000 cities and along 40,000 miles of U.S. highways.

We hold spectrum licenses in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Unlike our competitors, we have enough room in our 3G network to continue to increase speeds without adopting new standards. Currently, we are testing downlink speeds of 7.2Mbps, and our labs are preparing



In addition to wireless, AT&T is focused on wireline broadband customers. And the company's IP-based U-verse service for television, Internet, and phone is integrated with AT&T mobile phones.

to test at 14.4Mbps speeds. In addition, we will be able to introduce next-generation 4G LTE [Long Term Evolution] technology while still increasing speeds on our 3G network.

Q How is AT&T addressing Wi-Fi availability?

A We have very strong support for our Wi-Fi customers. We recently acquired Wi-Fi provider Wayport, increasing our domestic hotspots to 20,000 locations. The Wayport acquisition added hotspots at McDonald's restaurants, many hotels, and other locations nationwide. We also offer free access at approximately 7,000 company-operated Starbucks locations to AT&T high-speed Internet and Wi-Fi customers. You can find all of our Wi-Fi locations at www.attwifi.com.

Q What about international wireless access?

A We deliver the widest international voice coverage of any wireless carrier

in the world. With AT&T, customers can make wireless calls using an internationally enabled phone in more than 200 countries. We offer wireless data-roaming in more than 150 countries for laptops, handheld devices, and other data services and 3G services in 60 countries. We also offer wireless service on 120 cruise ships.

Q Does AT&T plan to open its wireless network to other devices, such as car navigation systems?

A Yes, that is definitely a focus. In October 2008, Glenn Lurie was appointed president of AT&T Emerging Devices to lead AT&T's strategic initiative to bring wireless connectivity to consumer electronics devices and applications—including personal computers, mobile Internet devices or minicomputers, in-car entertainment and navigation systems, cameras, and M2M [machine-to-machine] communications solutions. The Emerging Devices division is working on things such as cameras that can send photos over a wireless network to your email account, digital photo frame, or online photo locker. Car navigation systems are another focus, as are M2M communications that

allow businesses and consumers to monitor equipment and appliances remotely. Basically, the technology lets nonmobile phone devices use our mobile network to send and receive data.

Q In addition to services for cellular phones, what other areas is AT&T focusing on?

A We are very focused on our IP-based broadband business, both wireless (Wi-Fi) and wireline. At the end of the third quarter 2008, AT&T's wireline broadband subscribers totaled 14.8 million, up 1.1 million over the past year. Our wired services are concentrated in 22 states in the Southeast, Midwest, and on the West Coast.

Customers increasingly use wireline and wireless connections for broadband connectivity, as reflected in AT&T's strong growth in wireless LaptopConnect cards and integrated devices. In addition,

we are one of the world's largest providers of IP-based communications services for businesses, with an extensive portfolio of VPN [Virtual Private Network], VoIP [Voice over IP], and other offerings. We are also working with femtocell technology to boost cell phone service at home through a high-speed Internet connection. Finally, we are successfully growing our U-verse service for residential customers.

Q What is the U-verse service, and how many subscribers does AT&T have?

A U-verse is an IP-based television, high-speed Internet, and home phone service that comes with a DVR [digital video recorder] and integrates with AT&T mobile phones. For example, you can manage the DVR from your AT&T mobile phone, a PC, or a television, and U-verse customers get unlimited Wi-Fi access. We made a commitment to have 1 million U-verse subscribers in 2008, and we have met that goal. The AT&T U-verse TV ranked "Highest in Residential Television Service Satisfaction in the North Central, South, and West Regions" according to the J.D. Power and Associates 2008 Residential Television Service Provider Satisfaction Study.

by Carmen Carmack



AT&T's deal with Apple to be the exclusive carrier for the iPhone and iPhone 3G has propelled the company's wireless business.

Happy Trails

by Andrew Leibman

Intriguing Mobile Gear, New & Around The Bend

Pocket-Sized Powerhouse

■ THE IPHONE HAD IT from the word go. BlackBerry got it with the Storm and Bold. And now it's Nokia's turn to inject some fun into its line of advanced smartphones. The Nokia N97 puts a lot of power in the palm of your hand with a sliding widescreen 3.5-inch touch-sensitive display, a full QWERTY keyboard, 32GB of built-in memory (and a microSD slot for up to 16GB more), a 5MP (that's right 5MP) camera with a Carl Zeiss Tessar lens and DVD-quality video capture capabilities, Nokia Maps, an integrated A-GPS sensor, widget-based interface customization, and a battery robust enough to keep you dialed in for days on end. Connectivity is also high on this phone's list of talents; it supports 802.11b/g Wi-Fi, TV-out (PAL/NTSC), and Bluetooth 2.0 with A2DP stereo audio. The Nokia N97 will be available in Europe in the first half of 2009. There's no word yet on U.S. availability, but we'll be sure to keep you posted.



Secure Payments Via Mobile Phone



■ GIESECKE & DEVRIENT, a Germany-based smartcard maker, is about to push your smartphone to the head of the class. G&D's Mobile Security Card CL is a microSD memory card that also lends mobile phones NFC (near field communications) contactless smartcard capabilities. The Mobile Security Card CL fits into a phone's microSD slot and uses a miniature cryptography controller built into the flash card to securely manage your digital identity and, as long as the phone is equipped with an antenna for contactless communication, even make NFC-based e-wallet transactions. Potential applications for the brainy card include electronic access control, event ticketing, transit ticketing, contactless mobile payment, secure banking transactions, secure digital certificate storage, secure authentication for access to enterprise networks, and more. Who knew something so small could do so much for your phone?

Your mobile phone just got a lot **smarter.**

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—Dory Delvin, Yahoo! Tech Reviews

"It is clear that TeleNav helps professionals on the road make the most of their time."

—Dale Hein, CFO, Tel Control, Inc.

TeleNav GPS Navigator™ is the efficient way to get where you are going—whether across town or across the country—right on the mobile phone* you already carry.

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*Available on over 225 mobile phones.



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Provides an unobstructed
scan of your laptop



ScanFast Women's
Element Briefcase
MESFEBX



ScanFast Backpack
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ScanFast Women's
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MESFOBP



Mobile Edge offers the widest range of 'Checkpoint-Friendly' laptop cases for men and women!

We all know what a hassle it is to get through the airport checkpoints with our laptops.
Take them out of the case, run them through the x-rays in their own bins, etc.
Wouldn't you love to speed that process up?

The TSA recently announced new guidelines that will allow travelers with properly designed carrying cases to pass through security checkpoints without having to remove their laptops.

Mobile Edge has responded to this situation by creating the ScanFast Collection, each case is uniquely designed to provide an unobstructed security scan of the computer. If you're traveling with your laptop, let Mobile Edge make your trip through the airport faster and easier with the ScanFast Laptop Cases!

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